## THE INLAND STEAM VESSELS ACT, 1917 (I OF 1917).

### BOMBAY.

***G. N., M. D., No. 759-B, dated 15th October 1912.** S. 4 (1)

In exercise of the powers conferred by section 7, sub-section (*1*) of the Inland Steam Vessels Act, 1884 (VI of 1884), and in supersession of Government Notifications in the Marine Department, No. 112, dated the 5th October 1898, and No. 139, dated the 15th November 1898, the Governor in Council is pleased to appoint the First Engineer and Shipwright Surveyor and the Second Engineer and Shipwright Surveyor to the Government of Bombay as Surveyors at the Port of Bombay for the purposes of the said Act.

***G. N., M. D., No. 837, dated 21st October 1913.** S. 4 (1)

In exercise of the powers conferred by section 7, sub-section (*1*) of the Inland Steam Vessels Act, 1884 (VI of 1884), and in continuation of Government Notification in the Marine Department, No. 759-B, dated the 15th October 1912, the Governor in Council is pleased to appoint the Third Engineer and Shipwright Surveyor to the Government of Bombay as a Surveyor at the Port of Bombay for the purposes of the said Act.

### SURAT AND BROACH.

***G. N., M. D., No. 759-C, dated 15th October 1912.** S. 4 (1)

In exercise of the powers conferred by section 7, sub-section (*1*) of the Inland Steam Vessels Act, 1884 (VI of 1884), and in supersession of Government Notification in the Marine Department, No. 142, dated the 15th December 1896, the Governor in Council is pleased to appoint the Ports of Surat and Broach to be places of Survey for the purposes of the said Act and to appoint the First Engineer, and Shipwright Surveyor and the Second Engineer and Shipwright Surveyor to the Government of Bombay as Surveyors at the said places for the purposes of the said Act.

***G. N., M. D., No. 838, dated 21st October 1913.** S. 4 (1)

In exercise of the powers conferred by section 7, sub-section (*1*) of the Inland Steam Vessels Act, 1884 (VI of 1884), and in continuation of Government Notification in the Marine Department, No. 759-C, dated the 15th October 1912, the Governor in Council is pleased to appoint the Third Engineer and Shipwright Surveyor to the Government of Bombay as a Surveyor at the Ports of Surat and Broach for the purposes of this Act.

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* This notification issued under section 7 (*1*) of the Inland Steam Vessels Act, 1884 [corresponding to section 4 (*1*) (*b*) of the Inland Steam Vessels Act, 1917] is still in force.

BHATGAR.

S. 4 (1) **G. N., M. D., No. 807, dated 11th August 1924 (B. G., Pt. I, p. 1813).**

Under section 4 (*1*) (*a*) of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to declare Bhatgar on Lake Whiting to be a place of survey for the purposes of the said Act.

BANKOT.

S. 4 (1) **G. N., M. D., No. 870-A, dated 22nd December 1924 (B. G., Pt. I, p. 3203).**

Under section 4 of the Inland Steam Vessels Act, 1917 (I of 1917), as amended by subsequent enactments, the Governor in Council is pleased to declare Bankot to be a place of survey, and to appoint the Government Surveyors at the Port of Bombay to be Surveyors at the said place for the purposes of the said Act.

TADRI.

S. 4 (1) **G. N., M. D., No. 861(a), dated 3rd January 1925 (B. G., Pt. I, p. 56).**

In exercise of the powers conferred by section 4 of the Inland Steam Vessels Act, 1917 (I of 1917), as amended by subsequent enactments, the Governor in Council is pleased to declare Tadri to be a place of survey and to appoint Government Inspectors of Steam Boilers and Smoke Nuisances to be *ex-officio* Surveyors of inland vessels at the said place for the purposes of the said Act.

ISLAND OF PANJOO.

S. 4 (1) **G. N., M. D., No. 870/108 (a), dated 23rd January 1925 (B. G., Pt. I, p. 364).**

Under section 4 of the Inland Steam Vessels Act, 1917 (I of 1917), as amended by subsequent enactments, the Governor in Council is pleased to declare Panjoo Island near Bassein in the Thana District to be a place of survey for the purposes of the said Act, and to appoint the Government Surveyors at the Port of Bombay to be the surveyors at the Island of Panjoo for the purposes of the said Act.

HONAVAR.

S. 4 (1) **G. N., P. D., No. 6749-A, dated 13th May 1930 (B. G., Pt. I, p. 1128).**

In exercise of the powers conferred by section 4 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to declare Honavar to be a place of survey, and to appoint Government Inspectors of Steam Boilers and Smoke Nuisances to be ex-*officio* surveyors of steam-vessels at the said place, for the purposes of the said Act.

SADASHIVGAD.

S. 4 (1) **G. N., P. D., No. 6831-A, dated 22nd November 1930 (B. G., Pt. I, p. 2880).**

In exercise of the powers conferred by section 4 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to declare Sadashivgad to be a place of survey, and to appoint Government Inspectors of Steam Boilers and Smoke Nuisances to be *ex-officio* surveyors of steam-vessels at the said place, for the purposes of the said Act.

**G. N., P. D., No. 6749-A, dated 20th March 1930 (B. G., Pt. I, p. 586).** Ss. 6, 8 (1) & 14.

In exercise of the powers conferred by sections 6, 8 (*1*) and 14 of the Inland Steam Vessels Act, 1917 (I of 1917), and in supersession of Government notifications in the Marine Department noted in the margin the Governor in Council is pleased to appoint the Principal Officer, Mercantile Marine Department, Bombay District,

(1) No. 32, dated the 17th March 1893.
(2) No. 143, dated the 15th December 1896.
(3) No. 59, dated the 19th July 1899.
(4) No. 87B, dated the 22nd December 1924.
(5) No. 870/108 (*b*), dated the 23rd January 1925.

to be the Officer—

(*a*) to whom the owners or masters of inland steam-vessels to be surveyed at Bombay, Surat, Broach, Bankot or Panjoo Island shall pay the fee in respect of surveys ;

(*b*) to whom the owners or masters of inland-vessels surveyed at the aforesaid places shall send declarations of surveyors given under section 7 of the said Act, and

(*c*) to whom certificates of survey granted at the aforesaid places which have expired or have been suspended or cancelled shall be delivered up.

**G. N., P. D., No. 6749-B, dated 13th May 1930 (B.G., Pt. I, p. 1128).** S. 8 (1)

In exercise of the powers conferred by sub-section (*1*) of section 8 of the Inland Steam Vessels Act, 1917 (I of 1917), and in supersession of Government Notification in the Marine Department, No. 861-(B), dated the 3rd January 1925, the Governor in Council is pleased to appoint the Principal Officer, Mercantile Marine Department, Bombay District, to be the officer to whom owners or masters of steam-vessels at Tadri and Honavar shall send declaration of surveyors given under section 7 of the said Act.

**G. N., P. D., No. 6831-B, dated 22nd November 1930 (B. G., Pt. I, p. 2880).** S. 8 (1)

In exercise of the powers conferred by sub-section (*1*) of section 8 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to appoint the Principal Officer, Mercantile Marine Department, Bombay District, to be the officer to whom owners or masters of steam vessels at Sadashivgad shall send declarations of surveyors given under section 7 of the said Act.

**G. N., P. D., No. 6749-B, dated 20th March 1930 (B. G., Pt. I, p. 586).** S. 9 (4)

In exercise of the powers conferred by sub-section (*4*) of section 9 of the Inland Steam Vessels Act, 1917 (I of 1917), and in supersession of Government notifications in the margin the Governor in Council is pleased to delegate to the Principal Officer, Mercantile Marine Department, Bombay District, all the functions assigned to the State Government under the said section in respect of the ports of Bombay, Surat, Broach, Bankot and Panjoo Island.

(1) No. 33, dated the 17th March 1893.
(2) No. 34, dated the 17th March 1893.
(3) No. 144, dated the 15th December 1896.
(4) No. 87-C, dated the 22nd December 1924.
(5) No. 870/108 (*c*), dated the 23rd January 1925.

S. 9 (4) **G. N., P. D., No. 6749-C, dated 13th May 1930 (B. G., Pt. I, p. 1128).**

In exercise of the powers conferred by sub-section (*4*) of section 9 of the Inland Steam Vessels Act, 1917 (I of 1917), and in supersession of Government Notification in the Marine Department, No. 861 (C), dated the 3rd January 1925, the Governor in Council is pleased to delegate to the Principal Officer, Mercantile Marine Department, Bombay District, the functions assigned to the State Government under the said section in respect of surveys of steam-vessels at Tadri and Honavar.

S. 9 (4) **G. N., P. D., No. 6831-C, dated 22nd November 1930 (B. G., Pt. I, p. 2880).**

In exercise of the powers conferred by sub-section (*4*) of section 9 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to delegate to the Principal Officer, Mercantile Marine Department, Bombay District, the functions assigned to the State Government under the said section in respect of surveys of steam-vessels at Sadashivgad.

S. 19 ***G. N., M. D., No. 30, dated 17th March 1893.**

*Amended by G. N., M. D., No. 89, dated 10th August 1904.*
*Amended by G. N., M. D., No. 687, dated 26th June 1916.*
*Amended by G. N., M. D., No. 536-B,. dated 12th November 1925.*
*Amended by G. N., M. D., No. 429-A, dated 23rd November 1926.*

In exercise of the powers conferred by section 21 of the Inland Steam Vessels Act, (VI of 1884), as amended by subsequent enactments, and with the previous sanction of the Governor General in Council, the Governor in Council is pleased to make the following rules to regulate the making of surveys of inland steam-vessels at the port of Bombay :—

Manner of making applications.

1. Every application for the survey of an inland steam-vessel shall be made between the hours of 10 a.m. and 5 p.m. on any day except Sundays and Government holidays, on a printed sheet in the Form No. 1 † hereto annexed (which will be supplied for this purpose at the Surveyor's office) to the Surveyor at an appointed place of survey, and should be made at least three clear days before the day on which it is desired that the survey shall take place.

No application will be attended to which is not made in conformity with this rule ; provided that the surveyor may, in any particular case, admit an application lodged with him less than three clear days before the day on which it is desired that the survey shall take place.

2. Upon receipt of an application in the prescribed form duly filled in, the Surveyor will fix the date and hour at which the Survey shall be commenced, and will forward to the applicant an intimation of the date and hour so fixed, together with a list of the requisite preparations for the survey of the inland steam-vessel. The said intimation and list shall be in the Form No. 2 † hereto annexed.

* This notification issued under section 21 of the Inland Steam Vessels Act, 1884 (corresponding to section 19 of the Inland Steam Vessels Act, 1917) is still in force.

† Not printed.

Places at which and days on which surveys may be made.

3. Surveys shall be made by Surveyors appointed under the Act on any day in the year, with the exception of Sundays and Government holidays at Bombay, and at such other places as may, from time to time, be appointed by Government to be places of survey. With the concurrence of the Owner or Master who applies for a survey and of the Surveyor, a survey may be made on a Sunday or holiday.

4. If every part of the steam-vessel is not ready for survey at the time appointed under Rule 2, or if the requisite preparations have not been made in accordance with the list forwarded to the applicant under the said rule the Surveyor may fix some other convenient time for the survey.

If the Surveyor is unavoidably prevented from being present at the time fixed, the earliest possible intimation shall be sent to the applicant, and some other time convenient to the applicant and to the Surveyor shall be fixed for the Survey.

5. Owners and Masters will be able to avoid inconvenience and delay in fixing the time for the survey of vessels in dock or undergoing repairs by prompt intimation to the Port Officer if the vessels have afterwards to be surveyed.

6. If a Surveyor finds that any defect exists in the hull, machinery or equipment of a steam-vessel, he shall, before refusing to give a declaration regarding the vessel under section 9 of the Act, address a letter in the Form No. 3* hereto annexed, to the Owner or Master of the steam-vessel, pointing out such defect, and also pointing out the repairs, etc., necessary to make good the same.

If the Surveyor be subsequently informed by the Owner or Master that the requisite repairs, etc., have been executed, he shall, with the approval of the Port Officer, pay one or more extra visits to the steam-vessel, and thereafter either give or refuse a declaration as he shall think proper.

7. Every declaration of survey furnished under section 9 of the Act shall be in Form No. 5,* hereto annexed, and shall contain the several particulars therein prescribed.

8. The notice to be given under section 11 (sub-section 3) of the Act to the Owner or Master, when a certificate is ready for delivery shall be given in the Form No. 4,* hereto annexed, under the signature of the officer to whom this function has been delegated by the State Government under section 11, sub-section (*4*), clause (*b*) of the Act.

9. Certificates of survey shall be in the Form No. 6* attached to these rules or in such other form as the Government of Bombay may hereafter direct.

10. Whenever two Surveyors are employed by order of Government under section 18 of the Act, instead of one only to make a survey, and whenever two Surveyors are directed by Government under section 19 of the Act to

* Not printed.

make a second survey, one of the said Surveyors shall be a Shipwright Surveyor and the other an Engineer Surveyor. The Shipwright Surveyor will inspect the hull, equipments, and passenger accommodation, measure and determine the number of pas engers the vessel is fit to carry, and see that the certificates of the Master and Engineer or engine-driver are such as are required by the said Act; also that the light and fog-signals are in accordance with the regulations for the prevention of collisions at sea. The Engineer Surveyor will survey the engines, boilers and all the machinery required to be surveyed under the said Act.

11. A fee at the following rates shall be payable in respect of surveys :—

| | Rs. |
|---|---|
| For inland steam-vessels of which the gross tonnage— | |
| does not exceed 25 tons .. .. .. .. | 60 |
| exceeds 25 tons, but does not exceed 50 tons .. .. | 75 |
| exceeds 50 tons, but does not exceed 75 tons .. .. | 90 |
| exceeds 75 tons, but does not exceed 100 tons .. .. | 105 |
| exceeds 100 tons, but does not exceed 300 tons .. .. | 120 |
| exceeds 300 tons, but does not exceed 600 tons .. .. | 135 |
| exceeds 600 tons, but does not exceed 900 tons .. .. | 150 |
| exceeds 900 tons, but does not exceed 1,200 tons .. .. | 180 |

These rates are for certificates which, if not in the meantime cancelled or suspended, will remain in force for one year from the date thereof.

If the vessel's hull, machinery or equipments are stated in the certificate to be sufficient only for a period of less than one year from the date thereof, one-twelfth of the above amount shall be payable for each month or fraction of a month comprised in the said period ; provided that—

(*a*) the minimum fee shall be one-fourth of the annual fee,

(*b*) the full annual fee shall be payable, whatever be the nature of the certificate—

(*i*) in the case of a new steam-ship coming under survey for the first time, or

(*ii*) if in accordance with the application a ship has been fully surveyed, but the owners or agents are for any reason unwilling or unable to execute the repairs recommended by the surveyor.

Provided that where a steam-ship, while under survey for a certificate under the Indian Steam-ships Act, 1884, or while already holding a survey certificate in force under that Act, applies for a survey under the Inland Steam Vessels Act, 1884, only one-fourth of the above rates shall be leviable.

12. In addition to the fees payable under Rule 11, a fee of sixty rupees shall be payable in respect of every survey required by any application under Rule 1 to be made on any of the following days, namely :—

(*a*) Sunday,

(*b*) New Year's Day,

(*c*) Good Friday,

(*d*) [*Deleted.*] and

(*e*) Christmas Day.

13. The charge of overtime fees in respect of surveys or inspections wholly or partially carried out between the hours of 5 p.m. and 7 a.m. shall be regulated as follows :—

(*a*) Where the surveyor has admitted an application for survey on less than three clear days' notice, and a surveyor is called upon to undertake the survey or inspection of a vessel after 5 p.m. and before 7 a.m., an additional fee of Rs. 50 shall be charged.

(*b*) Where a surveyor is detained at the request of the ship owner or agent after 5 p.m. to complete a survey undertaken between the hours of 7 a.m. and 5 p.m., an additional fee of Rs. 25 shall be charged if the surveyor is released from duty before 6 p.m. and of Rs. 50 if he is detained later than 6 p.m.

(*c*) If three clear days' notice has been given, but official arrangements have not allowed of the work being done between the hours of 7 a.m. and 5 p.m. no additional fee shall be chargeable.

(*d*) Where a surveyor has been called under clause (*a*) or detained under clause (*b*) the ship owner or agent shall give information of the fact in writing to the Port Officer or to the Principal Engineer and Ship Surveyor to the Port of Bombay stating the hours during which the surveyor was in attendance.

**G. N., M. D., No. 861 (D), dated 3rd January 1925 (B. G., Pt. I, p. 56).** S.

*Amended by G. N., P. D., No. 6749-E, dated 24th June 1930.*
*Amended by G. N., P. & S. D., No. 6749 (a), dated 27th February 1939.*

In exercise of the powers conferred by section 19 of the Inland Steam Vessels Act, 1917 (I of 1917), as amended by subsequent enactments, the Governor in Council is pleased to make the following rules to regulate the making of surveys of inland vessels at the port of Tadri :—

1. Every application for the survey under the Inland Steam Vessels Act, 1917 (I of 1917), of an inland vessel shall be made on any day, except Sundays and Government holidays, on a printed sheet in the Form No. 1* hereto annexed (which will be supplied for this purpose at the office of the Principal Officer, Mercantile Marine Department, Bombay District) and should be made at least seven clear days before the day on which it is desired that the survey shall take place.

* Not printed.

2. Upon receipt of an application in the prescribed form duly filled in, the Principal Officer, Mercantile Marine Department, Bombay District, in communication with the Collector of Bombay, will fix the date and hour at which the survey shall be commenced, and will forward to the applicant an intimation of the date and hour so fixed, together with a list of the requisite preparations for the survey of the inland vessel. The said intimation and list shall be in the Form No. 2* hereto annexed.

3. Surveys shall be made at Tadri by Inspectors of Steam Boilers and Smoke Nuisances on any working day during the period of their annual visit to Ankola, of which the Principal Officer, Mercantile Marine Department, Bombay District, shall give at least a fortnight's notice to owners of inland vessels at Tadri. With the concurrence of the Owner or Master, who applies for survey, and of the surveyor, a survey may be made on a Sunday or holiday during the period mentioned above.

4. If at the time appointed under rule 2 the necessary fee has not been paid, or any part of the vessel is not ready for survey, or the requisite preparations have not been made in accordance with the list forwarded to the applicant under the said rule, the Principal Officer, Mercantile Marine Department, Bombay District, may, on payment by the applicant of all expenses arising out of the postponement of the survey, fix some other convenient date therefor.

If the Surveyor is unavoidably prevented from being present at the time fixed, the earliest possible intimation shall be sent to the applicant, and some other time convenient to the applicant and to the Surveyor shall be fixed for the survey.

5. Owners and Masters will be able to avoid inconvenience and delay in fixing the time for the survey of vessels in dock, or undergoing repairs, by prompt intimation to the Principal Officer, Mercantile Marine Department, Bombay District, if the vessels have afterwards to be surveyed.

6. If a Surveyor finds that any defect exists in the hull, machinery or equipment of a vessel, he shall, before refusing to give a declaration regarding the vessel under section 7 of the Inland Steam-vessels Act, 1917 (I of 1917), address a letter in Form No. 3* hereto annexed, to the Owner or Master of the vessel, pointing out such defect and also pointing out the repairs, etc., necessary to make good the same.

If the Surveyor be subsequently informed by the Owner or Master that the requisite repairs, etc., have been executed he shall with the approval of the Principal Officer, Mercantile Marine Department, Bombay District, pay one or more extra visits to the vessel, and thereafter either give or refuse a declaration, as he shall think proper.

7. Every declaration of survey furnished under section 7 of the Inland Steam-vessels Act, 1917 (I of 1917), shall be in Form No. 5* hereto annexed, and shall contain the several particulars therein prescribed.

8. The notice to be given under section 9 sub-section (*1*), clause (*b*) of the Inland Steam-vessels Act, 1917 (I of 1917), to the Owner or Master, when a certificate is ready for delivery, shall be given in the Form No. 4* hereto annexed under the signature of the officer, to whom the function has been delegated by the State Government under section 9, sub-section (*4*) of the said Act.

* Not printed.

9. Certificates of survey shall be in the Form No. 6* attached to these rules, or in such other form as the Government of Bombay may hereafter direct.

10. Whenever two Surveyors are employed by order of Government under section 16 of the Inland Steam-vessels Act, 1917 (I of 1917), instead of one only, to make a survey and whenever two Surveyors are directed by Government, under section 17 of the said Act, to make a second survey, one of the said Surveyors shall be a Shipwright Surveyor and the other an Engineer Surveyor. The Shipwright Surveyor will inspect hull, equipments, and passsenger accommodation, measure and determine the number of passengers the vessel is fit to carry, and see that the certificates of the Master and Engineer or engine-driver are such as are required by the said Act; also that the light and fog signals are in accordance with the regulations for the prevention of collisions at sea. The Engineer Surveyor will survey the engines, boilers and all the machinery required to be surveyed under the said Act.

11. A fee at the following rates shall be payable in respect of surveys of inland steam or motor vessels at Tadri :—

| | Rs. |
|---|---|
| for inland steam-vessels of which the gross tonnage— | |
| does not exceed 25 tons .. .. | 60 |
| exceeds 25 tons, but does not exceed 50 tons .. .. | 75 |
| exceeds 50 tons, but does not exceed 75 tons .. .. | 90 |
| exceeds 75 tons, but does not exceed 100 tons .. .. | 105 |
| exceeds 100 tons, but does not exceed 300 tons .. .. | 120 |
| exceeds 300 tons, but does not exceed 600 tons .. .. | 135 |
| exceeds 600 tons, but does not exceed 900 tons .. .. | 150 |
| exceeds 900 tons, but does not exceed 1,200 tons .. .. | 180 |

Daily allowance and travelling allowance to and from Tadri to the Surveyor at the rates admissible under the rules in the Bombay Civil Services Rules Manual *if he is an officer of the State Government*, and at the rates admissible under the Government of India Supplementary Rules *if he is an officer of the Central Government*.

12. In addition to the fees payable under rule 11 a fee of sixty rupees shall be payable in respect of every survey required to be made on any of the following days, namely :—

(*a*) Sunday.

(*b*) New Year's Day.

(*c*) Good Friday.

(*d*) [*Deleted.*]

(*e*) Christmas Day.

* Not printed.

S. 19 **G. N., P. D., No. 6749-D, dated 24th June 1930 (B. G., Pt. I, p. 1626).**

*Amended by G. N., P. & S. D., No. 6749 (b), dated 27th February 1939.*

In exercise of the powers conferred by section 19 of the Inland Steam-Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to make the following rules to regulate the making of surveys of inland steam-vessels at the Port of Honavar, namely :—

1. Every application for the survey under the Inland Steam-Vessels Act, 1917 (I of 1917), of the inland vessel shall be made on any day, except Sundays and Government holidays, on a printed sheet in the Form No. 1 hereto annexed (which will be supplied for this purpose at the office of the Principal Officer, Mercantile Marine Department, Bombay District) and should be made at least seven clear days before the day on which it is desired that the survey shall take place.

2. Upon receipt of an application in the prescribed form duly filled in, the Principal Officer, Mercantile Marine Department, Bombay District, in communication with the Collector of Bombay, will fix the date and hour at which the survey shall be commenced, and will forward to the applicant an intimation of the date and hour so fixed, together with a list of the requisite preparations for the survey of the inland vessel. The said intimation and list shall be in the Form No. 2 hereto annexed.

3. Surveys shall be made at Honavar by Inspectors of Steam Boilers and Smoke Nuisances on any working day during the period of their annual visit to Ankola, of which the Principal Officer, Mercantile Marine Department, Bombay District, shall give at least a fortnight's notice to owners of inland vessels at Honavar. With the concurrence of the owner or Master who applies for survey, and of the surveyor a survey may be made on a Sunday or holiday during the period mentioned above.

4. If at the time appointed under rule 2 the necessary fee has not been paid, or any part of the vessel is not ready for survey, or the requisite preparations have not been made in accordance with the list forwarded to the applicant under the said rule, the Principal Officer, Mercantile Marine Department, Bombay District, may, on payment by the applicant of all expenses arising out of the postponement of the survey, fix some other convenient date therefor.

If the Surveyor is unavoidably prevented from being present at the time fixed, the earliest possible intimation shall be sent to the applicant, and some other time convenient to the applicant and to the Surveyor shall be fixed for the survey.

5. Owners and Masters will be able to avoid inconvenience and delay in fixing the time for the survey of vessels in dock, or undergoing repairs, by prompt intimation to the Principal Officer, Mercantile Marine Department, Bombay District, if the vessels have afterwards to be surveyed.

6. If a Surveyor finds that any defect exists in the hull, machinery or equipment of a vessel, he shall, before refusing to give a declaration regarding the vessel under section 7 of the Inland Steam Vessels Act, 1917 (I of 1917), address a letter in Form No. 3 hereto annexed, to the Owner or Master of the vessel, pointing out such defect, and also pointing out the repairs, etc., necessary to make good the same.

If the Surveyor be subsequently informed by the Owner or Master that the requisite repairs, etc., have been executed, he shall, with the approval of the Principal Officer, Mercantile Marine Department, Bombay District, pay one or more extra visits to the vessel and thereafter either give or refuse a declaration, as he shall think proper.

7. Every declaration of Survey furnished under section 7 of the Inland Steam Vessels Act, 1917 (I of 1917), shall be in Form No. 5 hereto annexed, and shall contain the several particulars therein prescribed.

8. The notice to be given under section 9, sub-section (*1*) clause (*b*), of the Inland Steam Vessels Act, 1917 (I of 1917), to the Owner or Master, when a certificate is ready for delivery, shall be given in the Form No. 4 hereto annexed under the signature of the officer to whom the function has been delegated by the State Government under section 9, sub-section (*4*), of the said Act.

9. Certificates of survey shall be in the Form No. 6 attached to these rules, or in such other form as the Government of Bombay may hereafter direct.

10. Whenever two Surveyors are employed by order of Government under section 16 of the Inland Steam Vessels Act, 1917 (I of 1917), instead of one only, to make a survey and whenever two Surveyors are directed by Government, under section 17 of the said Act, to make a second survey, one of the said Surveyors shall be a Shipwright Surveyor and the other an Engineer Surveyor. The Shipwright Surveyor will inspect hull, equipments, and passenger accommodation, measure and determine the number of passengers the vessel is fit to carry, and see that the certificate of the Master and Engineer or engine-driver are such as are required by the said Act ; also that the light and fog signals are in accordance with the regulations for the prevention of collisions at sea. The Engineer Surveyor will survey the engines, boilers and all the machinery required to be surveyed under the said Act.

11. A fee at the following rates shall be payable in respect of surveys of inland steam or motor vessels at Honavar :—

| | Rs. |
|---|---|
| For inland steam vessels of which the gross tonnage— | |
| does not exceed 25 tons .. .. | 60 |
| exceeds 25 tons, but does not exceed 50 tons .. .. | 75 |
| exceeds 50 tons, but does not exceed 75 tons .. .. | 90 |
| exceeds 75 tons, but does not exceed 100 tons .. .. | 105 |
| exceeds 100 tons, but does not exceed 300 tons .. .. | 120 |
| exceeds 300 tons, but does not exceed 600 tons .. .. | 135 |
| exceeds 600 tons, but does not exceed 900 tons .. .. | 150 |
| exceeds 900 tons, but does not exceed 1,200 tons .. .. | 180 |

Daily allowance and travelling allowance to and from Honavar to the Surveyor at the rates admissible under the rules in the Bombay Civil Services Rules Manual *if he is an officer of the State Govrenment,* and at the rates admissible under the Government of India Supplementary Rules *if he is an officer of the Central Government.*

12. In addition to the fees payable under rule 11 a fee of sixty rupees shall be payable in respect of every survey required to be made on any of the following days, namely :—

(*a*) Sunday ;
(*b*) New Year's Day ;
(*c*) Good Friday ;
(*d*) [*Deleted.*]
(*e*) Christmas Day.

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FORM No. 1.

(*See* Rule 1.)

Survey No.

APPLICATION FOR THE SURVEY OF AN INLAND STEAM (MOTOR) VESSEL UNDER ACT I OF 1917.

INLAND STEAM (MOTOR) VESSEL.

| Name of Vessel | Port of Registry. | Official Number. | Tonnage. | |
|---|---|---|---|---|
| | | | Register. | Gross. |
| | | | | |

PARTICULARS OF SURVEY.

| Nature of Survey. | Date and Time of proposed visit of Surveyor. | Place where Vessel will be lying. | Class of Certificate required. |
|---|---|---|---|
| | | | |

We hereby apply to you to make the necessary arrangements for the survey of the vessel abovenamed at the time and place stated, should the requirements of the Public Service permit. We have paid to the officer appointed under section 6 of the Act a fee of Rs. in respect of the survey **and an additional fee of Rs. in respect of the expense of the journey of the Surveyor.*

Owner or Master.

To

The Principal Officer,
Mercantile Marine Department,
Bombay.

The 19 .

*N.B.*—Three clear days' notice must be given in all cases.

(C) PORT OFFICER'S ADVICE.

Forwarded to the Surveyors of the Port for compliance and to be returned for record.

Captain, R. I. M.,
Principal Officer,
Mercantile Marine Department, Bombay District.

(D) SURVEYOR'S NOTATION.

Application has been duly noted and is now returned to the Principal Officer. A Surveyor will proceed on board the vessel on the day of 19 at m.

Surveyor.

Bombay 19 .

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FORM No. 2.

(*See* Rule 2.)

MERCANTILE MARINE DEPARTMENT,
BOMBAY DISTRICT :

Bombay 19 .

To

The Owners (or Agents) of the Steam-vessel.

Sirs,

I have to acknowledge receipt of your application for survey of the above vessel under the Inland Steam-vessels Act, I of 1917, and to acquaint you that a surveyor will proceed on board the vessel at O'clock m. of next the day of 19 .

* These words should be inserted only when the survey is to be made in any place other than Bombay and the Surveyors do not reside at that place.

2. I subjoin a list of the requisite preparations for the survey, which I request may be made before the day and hour abovementioned so as to prevent loss of the Surveyor's time, otherwise it will be necessary for the Surveyor to postpone the survey to some other day.

3. I beg to call attention to the provisions of section 5 (*2*) of the Inland Steam-vessels Act, 1917, which is as follows :—

"The owner, master and officers of the steam-vessel shall afford to the Surveyor all reasonable facilities for a survey, and all such information respecting the steam-vessels, and her machinery, or any part thereof, and all equipments and articles on board, as he may require for the purposes of a survey."

I have the honour to be,
Sirs,
Your most obedient servant,

Captain, R. I. M.,
Principal Officer,
Mercantile Marine Department, Bombay District.

REQUISITE PREPARATIONS FOR THE SURVEY OF A STEAM-VESSEL.

1. Register and last Survey Certificate if any ..
2. Master's Certificate, if any .. ..
3. Engineer's Certificate .. ..
4. Last Passenger Certificate .. .. } To be on board at the time of survey.
5. Compass Adjustment Certificate signed by the Master, if fitted.
6. Boats to be uncovered and ready to lower, if fitted.

7. Pumps to be rigged in their places.

8. Side lamps, lamp for the mast-head light, and lamp for the anchor light to be on deck ready to be put into their places, if necessary.

9. Life-buoys to be in readiness.

10. Leads and lines to be on deck.

11. Fire-hose to be connected and coupled and stretched, if fitted along the deck. The conductor to be connected.

12. Decks, cabins, steerages, and all other passenger spaces to be clean and clear and in a fit state for measurement.

13. Chain cables (or a portion thereof) to be on deck.

14. A safe and proper ladder for going up and down the holds.

15. Boilers to be empty, to be quite cool, and the man and mud-hole doors to be off.

16. All furnace bars and bearer bars to be out of each boiler and bridges down.

17. Furnaces, flues, smoke-boxes, and tube plates to be swept quite clean.

18. The safety-valves and weights to be out of each boiler, and a means to be on board for weighing them.

19. All pipes and cocks at the ship's side to be accessible to the Surveyor.

20. Shaft tunnel to be clean and clear for the proper examination of the plumber blocks, thrust bearings and all covers of same and stuffing box.

21. Both bottom end and all crank shaft bearing opened up.

22. Air cir, feed and bilge pumps opened up for examination.

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FORM No. 3.

(*See* Rule 6.)

MERCANTILE MARINE DEPARTMENT,
BOMBAY DISTRICT :

Bombay, 19 .

No.————————of 19 .
S.

From

The Surveyor to the Port ;

To

Owner of S. L.————————

Sir,

Having surveyed the Steam Launch.....in accordance with the Inland Steam-vessels Act, 1917, I find the following to be the repairs, etc., required to make good the defects :—

HULL

EQUIPMENTS

ENGINES

BOILERS

I have the honour to be,
Sir,
Your most obedient servant,

Engineer and Ship Surveyor to the Port.

FORM No. 4.

(*See* Rule 8.)

SURVEY OF INLAND STEAM-VESSELS.

The of 19 .

To

The Owner or Master of the Steam-vessel.

Sir,

I hereby give you notice that the certificate of survey of the above inland steam-vessel applied for by is ready for delivery, and will be delivered at this office at any time during office hours on application *and payment of the following sum, *viz* :—

| | Rs. a. p. |
|---|---|
| Forfeiture under section 8 (2) of the Inland Steam-vessels Act, 1917, for delay in excess of fourteen days in sending in the declaration, being at the rate of Rs. 5 per day for days .. | |
| Total .. | |

I am,

Sir,

Your obedient servant,

Officer appointed under section 9, sub-section (4), of Act I of 1917.

* *Note.*—These words must be inserted only when any sum is due under section 9 (2) of the Act.

FORM No. 5.

(*See* Rule 7.)

No.

SURVEYOR'S DECLARATION UNDER SECTION 7 OF ACT I OF 1917.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| Name of Steam (motor) vessel, P. of Registry and official No. | Tonnage. | When and where built, and material. | Power, nominal (brake). | Description of engines, and age. | Description of boilers, and age. | Load on safety valves per square inch, | Ground tackle. |
| Official No. | Tons. | | Nominal (brake) Horse Power. | | | Main boilers lbs. Auxiliary boilers lbs. | |

| 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|
| Condition of hull. | General equipment. | Name of Master, and description of certificate, and number of officers and deck crew. | Name of Engineer or Engine-driver and description of certificate and number, and number of engine room crew. | When and where last examined in dry dock. | Limits (if any) beyond which the vessel is not fit to ply. |
| | | Master and No. of certificate<br>No. of officers<br>No. of deck crew | Engineer or Engine-driver and No. of certificate<br>No. of E. R. crew | | |

(*Continued*)

| 15 | 16 | | | | | | 17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time if less than one year, for which the hull, boilers, engines, or any of the equipments will be sufficient. | Dimensions of Boats. | | | | | | Capacity for carrying passengers. | | | |
| day of 19 | Cubic Capacity. | | | | | | Total Passengers. | | | |
| | Depth. | | | | | | Saloon Passengers. | | | |
| | Breadth. | | | | | | Second Cabin Passengers. | | | |
| For the year ending | Length. | | | | | | Deck Passengers. | Tween deck<br>Main deck<br>Upper deck or Bridge. | | Total |
| | | | | | | | | | | |

*Declaration to be made by the Surveyor.*

I hereby declare :—

1. That on I completed the inspection of (*a*) the steam (motor) vessel of Official number

2. That the hull and machinery are sufficient for the service intended and in good condition.

3. That the boats, life-saving appliances, lights, signals, compasses, safety valves and fire hose are such and in such condition as are required by the rules under Act I of 1917.

4. That the hull, machinery and equipments will, in my judgment, be sufficient until (*b*)

5. That the load to be placed on the safety valves should not exceed the pressure in lbs. per square inch stated on page 1 of this form, and that the safety valves have been adjusted accordingly.

(*a*) If the survey was partial, state what parts were surveyed.
(*b*) Insert date or dates.

6. That the vesse', as regards the hull, machinery and equipments is, in my judgment, fit to ply as an inland steam (motor) vessel.

7. That the vessel is, in my judgment, fit to carry the number of passengers stated on page 2 of this form, provided there is no encumbrance of the space measured for passenger accommodation.

8. That the certificates of the master and engineer (engine driver) are such as are required by Act I of 1917.

Dated at the Mercantile Marine Department, Bombay,
this day of 19 .

Engineer, Lieut. Commander, R. I. M.,
Engineer and Ship-Surveyor to
the Government of India.

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NOTICE.

In accordance with Government Notification No. 32, dated 17th March 1893, Owners or Masters of Inland Steam Vessels are required to send Surveyor's declarations to the Principal Officer, M. M. Department, within 14 days of receipt thereof, noting the date of receipt from the Surveyors and transmission to the Principal Officer, M. M. Department, thereon.

*This Declaration was (given) (sent by Post) to the person named opposite by the Surveyor whose signature it bears, on the date stated opposite. } Person
} Date 19 .

This Declaration was received this day of 19 } by me

(State whether Owner or Master.)

†And transmitted to the Port Officer, this day of 19 } by me

(State whether Owner or Master.)

Name and address of the Owner or Master to whom notice should be sent when the certificate is ready for delivery.

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* To be filled in by the Surveyors.
† To be filled in by the Owner or Master.

MO-3 Bk H 715—62

FORM No. 6.

(*See* Rule 9.)

**Original.**

By section 14 of the Inland Steam Vessels Act, I of 1917, all expired, cancelled or suspended Certificates of Survey granted at Bombay shall be delivered up to the Principal Officer, Mercantile Marine Department, Bombay.

**No.**

## CERTIFICATE OF SURVEY.

ISSUED UNDER ACT I OF 1917 OF THE GOVERNOR-GENERAL IN COUNCIL BY THE GOVERNMENT OF BOMBAY.

*For an Inland Steam Motor Vessel.*

To remain in force only until the day of 19

Inland Steamer (Motor Vessel)

Owner, Managing Owner, or Agent

| Port of Registry and Official Number. | Tonnage. | | Name of Master and Number of his Certificate. |
|---|---|---|---|
| | Gross. | Registered. | |
| | | | |

Limits beyond which this Vessel is not to ply

## NUMBER OF PASSENGERS.

This Ship is, according to the declaration of the Ship Surveyor, fit to carry, when there is no incumbrance of passenger accommodation—

| Deck Passengers. | Second Cabin Passengers. | Saloon Passengers. | Crew. | Total Passengers and Crew. |
|---|---|---|---|---|
| Tween Deck .. | | | | |
| Main Deck .. | | | | |
| Upper Deck or Bridge .. | | | | |
| Total .. | | | | |

If the Space measured for Passenger Accommodation is occupied by Cattle or by Cargo, or other articles—

Then for every 4½ superficial feet of such space so occupied on the upper deck, and for every 9 superficial feet of such space so occupied on the lower deck or in the cabins. } ONE PASSENGER is to be deducted from the numbers above stated.

## BOATS, LIFE-BUOYS AND EQUIPMENTS.

Required to be carried by this Ship.

| Boats. | Life Buoys and Equipments. |
|---|---|
| EITHER<br>Boats<br>OR<br>Boat { of the aggregate capacity of } cubic feet. | A Fire Hose capable of being connected with the engine, and of sufficient length, to be used in any part of the vessel.<br>A Safety Valve on each boiler, out of the control of any person on board, except the Master, when the steam is up.<br>Compass<br>Life-Buoys fit and ready for use. |
| | |

THIS IS TO CERTIFY THAT the provisions of the Law with respect to the Survey of the abovementioned Steam (Motor) Vessel and the transmission of Declarations in respect thereof have been complied with.

Signed by order of the Government of Bombay,
this day of 19 .

Examined and Registered.

Captain, R. I. M.,
Principal Officer, Mercantile Marine Department,
Bombay District.

This Certificate, unless previously cancelled or revoked, to be in force until the day of 19 .

If the Vessel is then out of a Port of Survey, she must be surveyed and have a new Certificate before she first begins to ply after her next subsequent returns to a Port of Survey.

Either this Certificate, or the Original thereof, furnished by the Government of Bombay, is to be put up in a conspicuous part of the Vessel, where it will be visible to all persons on board the same.

If the number of passengers carried exceeds the number stated in this Certificate, the Master or Owner shall, for every passenger over and above that number, be each liable to a Fine which may extend to Ten Rupees.

In case of any ACCIDENT occasioning loss of life, or any material damage affecting the seaworthiness or efficiency of the vessel, either in the hull or in any part of the machinery, a report BY LETTER SIGNED BY THE OWNER OR MASTER, is to be forwarded to the Principal Officer, Mercantile Marine Department, Bombay, within 24 hours after the happening of the accident, or as soon thereafter as possible.

*N.B.*—Any communication addressed to the Government of Bombay relative to this Vessel should state the Name, Port of Registry, and Official Number of the Vessel, and the Number of this Certificate.

S. 19 **G. N., P. D., No. 6831-D, dated 8th January 1931 (B. G., Pt. I, p. 111):**

*Amended by G. N., P. & S. D., No. 6749 (c), dated 27th February 1939.*

In exercise of the powers conferred by section 19 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to make the following rules to regulate the making of surveys of inland steam vessels at Sadashivgad, namely :—

1. Every application for the survey under the Inland Steam Vessels Act, 1917 (I of 1917), of an inland vessel shall be made on any day, except Sundays and Government holidays, on a printed sheet in the Form No. 1 hereto annexed (which will be supplied for this purpose at the office of the Principal Officer, Mercantile Marine Department, Bombay District) and should be made at least seven clear days before the day on which it is desired that the survey shall take place.

2. Upon receipt of an application in the prescribed form duly filled in, the Principal Officer, Mercantile Marine Department, Bombay District, in communication with the Collector of Bombay, will fix the date and hour at which the survey shall be commenced and will forward to the applicant an intimation of the date and hour so fixed, together with a list of the requisite preparations for the survey of the inland vessel. The said intimation and list shall be in the Form No. 2 hereto annexed.

3. Surveys shall be made at Sadashivgad by Inspectors of Steam Boilers and Smoke Nuisances on any working day during the period of their annual visit to Ankola, of which the Principal Officer, Mercantile Marine Department, Bombay District, shall give at least a fortnight's notice to owners of inland vessels at Sadashivgad. With the concurrence of the owner or Master, who applies for survey, and of the surveyor, a survey may be made on a Sunday or holiday during the period mentioned above.

4. If at the time appointed under rule 2 the necessary fee has not been paid, or any part of the vessel is not ready for survey, or the requisite preparations have not been made in accordance with the list forwarded to the applicant under the said rule, the Principal Officer, Mercantile Marine Department, Bombay District, may, on payment by the applicant of all expenses arising out of the postponement of the survey, fix some other convenient date therefor.

If the Surveyor is unavoidably prevented from being present at the time fixed, the earliest possible intimation shall be sent to the applicant, and some other time convenient to the applicant and to the surveyor shall be fixed for the survey.

5. Owners and Masters will be able to avoid inconvenience and delay in fixing the time for the survey of vessels in dock, or undergoing repairs, by prompt intimation to the Principal Officer, Mercantile Marine Department, Bombay District, if the vessels have afterwards to be surveyed.

6. If a Surveyor finds that any defect exists in the hull, machinery or equipment of a vessel, he shall, before refusing to give a declaration regarding the vessel under section 7 of the Indian Steam Vessels Act, 1917 (I of 1917), address a letter in Form No. 3 hereto annexed, to the owner or Master of the vessel, pointing out such defect, and also pointing out the repairs, etc., necessary to make good the same.

If the Surveyor be subsequently informed by the owner or Master that the requisite repairs, etc., have been executed, he shall, with the approval of the Principal Officer, Mercantile Marine Department, Bombay District, pay one or more extra visits to the vessel, and thereafter either give or refuse a declaration, as he shall think proper.

7. Every declaration of survey furnished under section 7 of the Inland Steam Vessels Act, 1917 (I of 1917), shall be in Form No. 5 hereto annexed, and shall contain the several particulars therein prescribed.

8. The notice to be given under section 9, sub-section (*1*), clause (*b*), of the Inland Steam Vessels Act, 1917 (I of 1917), to the owner or Master, when a certificate is ready for delivery, shall be given in the Form No. 4 hereto annexed under the signature of the officer, to whom the function has been delegated by the State Government under section 9, sub-section (*4*), of the said Act.

9. Certificates of survey shall be in the Form No. 6 attached to these rules, or in such other form as the Government of Bombay may hereafter direct.

10. Whenever two surveyors are employed by order of Government under section 16 of the Inland Steam Vessels Act, 1917 (I of 1917), instead of one only, to make a survey and whenever two surveyors are directed by Government, under section 17 of the said Act, to make a second survey, one of the said surveyors shall be a Shipwright Surveyor and the other an Engineer Surveyor. The Shipwright Surveyor will inspect hull, equipments, and passenger accommodation, measure and determine the number of passengers the vessel is fit to carry, and see that the certificates of the Master and Engineer or engine-driver are such as are required by the said Act ; also that the light and fog signals are in accordance with the regulations for the prevention of collisions at sea. The Engineer Surveyor will survey the engines, boilers and all the machinery required to be surveyed under the said Act.

11. A fee at the following rates shall be payable in respect of surveys of inland steam or motor vessels at Sadashivgad :—

| | Rs. |
|---|---|
| For inland steam vessels of which the gross tonnage— | |
| does not exceed 25 tons .. .. | 60 |
| exceeds 25 tons, but does not exceed 50 tons .. .. | 75 |
| exceeds 50 tons, but does not exceed 75 tons .. .. | 90 |
| exceeds 75 tons, but does not exceed 100 tons .. .. | 105 |
| exceeds 100 tons, but does not exceed 300 tons .. .. | 120 |
| exceeds 300 tons, but does not exceed 600 tons .. .. | 135 |
| exceeds 600 tons, but does not exceed 900 tons .. .. | 150 |
| exceeds 900 tons, but does not exceed 1,200 tons .. .. | 180 |

Daily allowance and travelling allowance to and from Sadashivgad to the surveyor at the rates admissible under the rules in the Bombay Civil Services Rules Manual *if he is an officer of the State Government*, and at the rates admissible under the Government of India Supplementary Rules *if he is an officer of the Central Government*.

12. In addition to the fees payable under rule 11 a fee of sixty rupees shall be payable in respect of every survey required to be made on any of the following days, namely :—

(*a*) Sunday ;

(*b*) New Year's Day ;

(*c*) Good Friday ;

(*d*) [*Deleted*] ; and

(*e*) Christmas Day.

FORM No. 1.

(*See* Rule 1.)

Survey No.

## APPLICATION FOR THE SURVEY OF AN INLAND STEAM (MOTOR) VESSEL, UNDER ACT I OF 1917.

INLAND STEAM (MOTOR) VESSEL.

| Name of Vessel. | Port of Registry. | Official Number. | Tonnage. | |
|---|---|---|---|---|
| | | | Register. | Gross. |
| | | | | |

PARTICULARS OF SURVEY.

| Nature of Survey. | Date and Time of proposed visit of Surveyor. | Place where Vessel will be lying. | Class of Certificate required. |
|---|---|---|---|
| | | | |

We hereby apply to you to make the necessary arrangements for the Survey of the vessel abovenamed at the time and place stated, should the requirements of the Public Service permit. We have paid to the officer appointed under section 6 of the Act a fee of Rs. in respect of the survey **and an additional fee of Rs. in respect of the expense of the journey of the Surveyor.*

Owner or Master.

To

The Principal Officer,
Mercantile Marine Department, Bombay.

The 19 .

*N.B.*—Three clear days' notice must be given in all cases.

(C) PORT OFFICER'S ADVICE.

Forwarded to the Surveyors of the Port for compliance and to be returned for record.

Captain, R. I. M.,
Principal Officer,
Mercantile Marine Department, Bombay District.

(D) SURVEYOR'S NOTATION.

Application has been duly noted and is now returned to the Principal Officer. A Surveyor will proceed on board the vessel on the day of 19

at m.

Surveyor.

Bombay 19 .

* These words should be inserted only when the survey is to be made in any place other than Bombay and the Surveyors do not reside at that place.

FORM No. 2.

(*See* Rule 2.)

MERCANTILE MARINE DEPARTMENT,
BOMBAY DISTRICT :

Bombay, 19 .

To

The Owners (or Agents) of the Steam Vessel.

SIRS,

I have to acknowledge receipt of your application for survey of the above vessel under the Inland Steam-vessels Act, I of 1917, and to acquaint you that a surveyor will proceed on board the vessel at o'clock m. of next the day of 19 .

2. I subjoin a list of the requisite preparations for the survey, which I request may be made before the day and hour above mentioned so as to prevent loss of the Surveyor's time, otherwise it will be necessary for the Surveyor to postpone the survey to some other day.

3. I beg to call attention to the provisions of section 5 (2) of the Inland Steam-vessels Act, 1917, which is as follows :—

"The owner, master and officers of the steam-vessel shall afford to the Surveyor all reasonable facilities for a survey, and all such information respecting the steam-vessel and her machinery, or any part thereof, and all equipments and articles on board, as he may require for the purposes of a survey."

I have the honour to be,

SIRS,

Your most obedient servant,

Captain, R. I. M.

Principal Officer,
Mercantile Marine Department, Bombay District.

FORM No. 4.

(*See* Rule 8.)

SURVEY OF INLAND STEAM-VESSELS.

The of 19

To

The Owner or Master of the Steam Vessel.

Sir,

I hereby give you notice that the certificate of survey of the above inland steam-vessel applied for by is ready for delivery, and will be delivered at this office at any time during office hours on application *and payment of the following sum, *viz.* :—

| | Rs. a. p. |
|---|---|
| Forfeiture under section 8 (*2*) of the Inland Steam Vessels Act, 1917, for delay in excess of fourteen days in sending in the declaration, being at the rate of Rs. 5 per day for days .. .. .. .. | |
| Total .. | |

I am,

Sir,

Your obedient servant,

Officer appointed under section 9, sub-section (*4*), of Act I of 1917.

* *Note.*—These words must be inserted only when any sum is due under section 9 (*2*) of the Act.

FORM No. 5.

(*See* Rule 7.)

No.

SURVEYOR'S DECLARATION UNDER SECTION 7 OF ACT I OF 1917.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| Name of Steam (motor) vessel, P. of Registry and official No. | Tonnage. | When and where built, and material. | Power, nominal (brake). | Description of engines, and age. | Description of boilers, and age. | Load on safety valves per square inch. | Ground tackle. |
| Official No. | Tons. | | Nominal (brake) Horse Power. | | | Main Boilers lbs.<br>Auxiliary Boilers lbs. | |

| 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|
| Condition of hull | General equipment | Name of Master, and description of certificate, and number of officers and deck crew. | Name of Engineer or Engine-driver and description of certificate and number, and number of engine-room crew. | When and where last examined in dry dock. | Limits (if any) beyond which the vessel is not fit to ply. |
| | | Master and No. of certificate No. of officers No. of deck Crew. | Engineer or Engine-driver and No. of certificate No. of E. R. crew. | | |

(*Continued*)

| 15 | 16 | | | | 17 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Time if less than one year, for which the hull, boilers, engines, or any of the equipments will be sufficient. | Dimensions of Boats. | | | | Capacity for carrying passengers. | | | | |
| | Length. | Breadth. | Depth. | Cubic Capacity. | Deck Passengers. | Second Cabin Passengers. | Saloon Passengers. | Total Passengers. | |
| For the year ending day of 19 . | | | | | Tween deck<br>Main deck<br>Upper deck or Bridge.<br>Total | | | | |

*Declaration to be made by the Surveyor.*

I hereby declare :—

1. That on I completed the inspection of (*a*) the steam (motor) vessel of Official Number.

2. That the hull and machinery are sufficient for the service intended and in good condition.

3. That the boats, life-saving appliances, lights, signals, compasses, safety valves and fire hose are such and in such condition as are required by the rules under Act I of 1917.

4. That the hull, machinery and equipments will, in my judgment, be sufficient until (*b*).

5. That the load to be placed on the safety valves should not exceed the pressure in lbs. per square inch stated on page 1 of this form, and that the safety valves have been adjusted accordingly.

(*a*) If the survey was partial, state what parts were surveyed.
(*b*) Insert date or dates.

6. That the vessel, as regards the hull, machinery and equipments is, in my judgment, fit to ply as an inland steam (motor) vessel.

7. That the vessel is, in my judgment, fit to carry the number of passengers stated on page 2 of this form, provided there is no encumbrance of the space measured for passenger accommodation.

8. That the certificates of the master and engineer (engine-driver) are such as are required by Act I of 1917.

Dated at the Mercantile Marine Department, Bombay,
this day of 19 .

Engineer-Lieut.-Commander, R. I. M.,
Engineer and Ship Surveyor to the Government of India.

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NOTICE.

In accordance with Government Notification No. 32, dated 17th March 1893, Owners or Masters of Inland Steam Vessels are required to send Surveyor's declarations to the Principal Officer, M. M. Department, within 14 days of receipt thereof, noting the date of receipt from the Surveyors and transmission to the Principal Officer, M. M. Department, thereon.

*This Declaration was (given) (sent by Post) to the person named opposite, by the Surveyor whose signature it bears, on the date stated opposite. — Person / Date 19

This Declaration was received this day of 19 . — by me

(State whether Owner or Master.)

†And transmitted to the Port Officer, this day of 19 . — by me

(State whether Owner or Master.)

Name and address of the Owner or Master to whom notice should be sent when the certificate is ready for delivery.

---

* To be filled in by the Surveyor.
† To be filled in by the Owner or Master.

FORM No. 6.

(*See* Rule 9.)

**Original.**

By section 14 of the Inland Steam Vessels Act, I of 1917, all expired, cancelled or suspended Certificates of Survey granted at Bombay shall be delivered up to the Principal Officer, Mercantile Marine Department, Bombay.

No.

## CERTIFICATE OF SURVEY.

ISSUED UNDER ACT I OF 1917 OF THE GOVERNOR-GENERAL IN COUNCIL, BY THE GOVERNMENT OF BOMBAY.

*For an Inland Steam (Motor) Vessel.*

To remain in force only until the day of 19 .

Inland Steamer (Motor Vessel)

Owner, Managing Owner, or Agent.

| Port of Registry and Official Number. | Tonnage. | | Name of Master and Number of Certificate. |
|---|---|---|---|
| | Gross. | Registered. | |
| | | | |

Limits beyond which this Vessel is not to ply.

## NUMBER OF PASSENGERS.

This Ship is, according to the declaration of the Ship Surveyor, fit to carry, when there is no incumbrance of passenger accommodation—

| Deck Passengers. | Second Cabin Passengers. | Saloon Passengers. | Crew. | Total Passengers and Crew |
|---|---|---|---|---|
| Tween Deck .. | | | | |
| Main Deck .. | | | | |
| Upper Deck or Bridge .. | | | | |
| Total .. | | | | |

If the Space measured for Passenger Accommodation is occupied by Cattle or by Cargo, or other articles—

Then for every 4½ superficial feet of such space so occupied on the upper deck, and for every 9 superficial feet of such space so occupied on the lower deck or in the cabins. } ONE PASSENGER IS to be deducted from the numbers above stated.

## BOATS, LIFE-BUOYS AND EQUIPMENTS.

Required to be carried by the Ship.

| Boats. | Life-Buoys and Equipments. |
|---|---|
| EITHER. | A Fire Hose capable of being connected with the engine and of sufficient length, to be used in any part of the vessel. |
| Boats or | A Safety Valve on each boiler, out of the control of any person on board, except the Master, when the steam is up. |
| Boat of the aggregate capacity of cubic feet | Compass Life-Buoys fit and ready for use. |
| | |

THIS IS TO CERTIFY that the provisions of the Law with respect to the Survey of the abovementioned Steam (Motor) Vessel and the transmission of Declarations in respect thereof have been complied with.

Signed by order of the Government of Bombay,
this day of 19 .

Examined and Registered,

Captain, R. I. M.,
Principal Officer, Mercantile Marine Department,
Bombay District.

This Certificate, unless previously cancelled or revoked, to be in force until the day of 19 .

If the Vessel is then out of a Port of Survey, she must be surveyed and have a new Certificate before she first begins to ply after her next subsequent return to a Port of Survey.

Either this Certificate, or the Original thereof, furnished by the Government of Bombay, is to be put up in a conspicuous part of the Vessel, where it will be visible to all persons on board the same.

If the number of passengers carried exceeds the number stated in this Certificate, the Master or Owner shall, for every passenger over and above that number, be each liable to a Fine which may extend to Ten Rupees.

In case of any ACCIDENT occasioning loss of life, or any material damage affecting the sea worthiness or efficiency of the vessel, either in the hull or in any part of the machinery, a report BY LETTER, SIGNED BY THE OWNER OR MASTER, is to be forwarded to the Principal Officer, Mercantile Marine Department, Bombay, within 24 hours after the happening of the accident, or as soon thereafter as possible.

*N.B.*—Any communication addressed to the Government of Bombay relative to this Vessel should state the Name, Port of Registry, and Official Number of the Vessel, and the Number of this Certificate.

**G. N., P. & S. D., No. 6749 (d), dated 27th February 1939 (B. G., Pt. IV-A, pp. 188-202).**

In exercise of the powers conferred by section 19 of the Inland Steam-vessels Act, 1917 (I of 1917), and in supersession of Government Notification in the Marine Department, No. 141, dated the 15th December 1896, the Government of Bombay is pleased to make the following rules to regulate the making of surveys of inland steam-vessels at the Ports of Surat and Broach, namely :—

1. An application for the survey under the Inland Steam-Vessels Act, 1917 (I of 1917), of an inland vessel may be made on any day, except Sundays and Government holidays, on a printed sheet in the Form No. 1 hereto annexed (which will be supplied for this purpose at the office of the Principal Officer, Mercantile Marine Department, Bombay District) and shall be made at least seven clear days before the day on which it is desired that the survey shall take place.

2. Upon receipt of an application in the prescribed form duly filled in, the Principal Officer, Mercantile Marine Department, Bombay District, shall fix the date and hour at which the survey shall be commenced, and shall send to the applicant an intimation of the date and hour so fixed, together with a list of the requisite preparations for the survey of the inland vessel. The said intimation and list shall be in the Form No. 2 hereto annexed.

3. Surveys shall be made at Surat and Broach by Surveyors appointed under the Inland Steam Vessels Act, 1917 (I of 1917), on any day in the year, with the exception of Sundays and Government holidays. With the concurrence of the Owner or Master, who applies for a survey, and of the Surveyor, a survey may be made on a Sunday or a holiday.

4. If before the time appointed for survey under rule 2 the necessary fee has not been paid, or any part of the vessel is not ready for survey, or the requisite preparations have not been made in accordance with the list forwarded to the applicant under the said rule, the Principal Officer, Mercantile Marine Department, Bombay District, may, on payment by the applicant of all expenses arising out of the postponement of the survey, fix some other convenient date therefor.

If the Surveyor is unavoidably prevented from being present at the time fixed, the earliest possible intimation shall be sent to the applicant, and some other time convenient to the applicant and to the Surveyor shall be fixed for the survey.

5. Owners and Masters will be able to avoid inconvenience and delay in fixing the time for the survey of vessels in dock, or undergoing repairs, by prompt intimation to the Principal Officer, Mercantile Marine Department, Bombay District, if the vessels have afterwards to be surveyed.

6. If a Surveyor, finds that any defect exists in the hull, machinery or equipment of a vessel, he shall before refusing to give a declaration regarding the vessel under section 7 of the Inland Steam Vessels Act, 1917 (I of 1917), address a letter in Form No. 3 hereto annexed, to the Owner or Master of the vessel, pointing out such defect, and also pointing out the repairs, etc., necessary to make good the same.

If the Surveyor be subsequently informed by the Owner or Master that the requisite repairs, etc., have been executed, he shall with the approval of the Principal Officer, Mercantile Marine Department, Bombay District, pay one or more extra visits to the vessel, and thereafter either give or refuse a declaration as he shall think proper.

7. Every declaration of survey furnished under section 7 of the Inland Steam Vessels Act, 1917 (I of 1917), shall be in Form No. 5 hereto annexed, and shall contain the several particulars therein prescribed.

8. The notice to be given under section 9, sub-section (*1*), clause (*b*), of the Inland Steam Vessels Act, 1917 (I of 1917), to the Owner or Master, when a certificate is ready for delivery, shall be given in the Form No. 4 hereto annexed under the signature of the officer, to whom the function has been delegated by the State Government under section 9, sub-section (*4*), of the said Act.

9. Certificates of survey shall be in the Form No. 6 attached to these rules, or in such other form as the Government of Bombay may hereafter direct.

10. Whenever two Surveyors are employed by order of Government under section 61 of the Inland Steam Vessels Act, 1917 (I of 1917), instead of one only, to make a survey and whenever two Surveyors are directed by Government, under section 17 of the said Act, to make a second survey, one of the said Surveyors shall be a Shipwright Surveyor and the other an Engineer Surveyor. The Shipwright Surveyor will inspect hull, equipments, and passenger accommodation, measure and determine the number of passengers the vessel is fit to carry, and see that the certificate of the Master and Engineer or engine-driver are such as are required by the said Act; also that the light and fog signals are in accordance with the regulations for the prevention of collisions at sea. The Engineer Surveyor will survey the engines, boilers and all the machinery required to be surveyed under the said Act.

11. A fee at the following rates shall be payable in respect of surveys of inland steam or motor vessels at Surat and Broach :—

| | Rs. |
|---|---|
| For inland steam vessels of which the gross tonnage— | |
| does not exceed 25 tons .. .. | 60 |
| exceeds 25 tons, but does not exceed 50 tons .. .. | 75 |
| exceeds 50 tons, but does not exceed 75 tons .. .. | 90 |
| exceeds 75 tons, but does not exceed 100 tons .. .. | 105 |
| exceeds 100 tons, but does not exceed 300 tons .. .. | 120 |
| exceeds 300 tons, but does not exceed 600 tons .. .. | 135 |
| exceeds 600 tons, but does not exceed 900 tons .. .. | 150 |
| exceeds 900 tons, but does not exceed 1,200 tons .. .. | 180 |

Daily allowance and travelling allowance to and from Surat and Broach to the Surveyor at the rates admissible under the Government of India Supplementary Rules.

12. In addition to the fees payable under rule 11 a fee of sixty rupees shall be payable in respect of every survey required to be made on any of the following days, namely :—

(*a*) Sundays ;

(*b*) New Year's Day ;

(*c*) Good Friday ;

(*d*) [*Deleted*] ;

(*e*) Christmas Day.

FORM No. 1.

(*See* Rule 1.)

Survey No.

## APPLICATION FOR THE SURVEY OF AN INLAND STEAM (MOTOR) VESSEL UNDER ACT I OF 1917.

INLAND STEAM (MOTOR) VESSEL.

| Name of Vessel. | Port of Registry. | Official Number. | Tonnage. | |
|---|---|---|---|---|
| | | | Register. | Gross. |
| | | | | |

PARTICULARS OF SURVEY.

| Nature of Survey. | Date and Time of proposed visit of Surveyor. | Place where Vessel will be lying. | Class of Certificate required. |
|---|---|---|---|
| | | | |

*We hereby apply to you to make the necessary arrangements for the Survey of the vessel abovenamed at the time and place stated, should the requirements of the Public Service permit. We have paid to the officer appointed under section 6 of the Act a fee of Rs. in respect of the survey
*and an additional fee of Rs. in respect of the expense of the Journey of the Surveyor.*

Owner or Master.

To

The Principal Officer,
Mercantile Marine Department, Bombay.

The 19 .

*N.B.*—Three clear days' notice must be given in all cases.

(C) PRINCIPAL OFFICER'S ADVICE.

Forwarded to the Surveyors of the Port for compliance and to be returned for record.

Principal Officer,
Mercantile Marine Department, Bombay District.

(D) SURVEYOR'S NOTATION.

Application has been duly noted and is now returned to the Principal Officer. A Surveyor will proceed on board the vessel on the day of 19 at m.

Surveyor.

Bombay, 19 .

* These words should be inserted only when the survey is to be made in any place other than Bombay and the Surveyors do not reside at that place.

FORM No. 2.

(*See* Rule 2.)

MERCANTILE MARINE DEPARTMENT,
BOMBAY DISTRICT :

Bombay, 19 .

To

The Owners (or Agents) of the Steam Vessel————————

Sirs,

I have to acknowledge receipt of your application for survey of the above vessel under the Inland Steam Vessels Act, I of 1917, and to acquain you that a surveyor will proceed on board the vessel at o'clock m. of next the day of 19 .

2. I subjoin a list of the requisite preparations for the survey, which I request may be made before the day and hour abovementioned so as to prevent loss of the Surveyor's time, otherwise it will be necessary for the Surveyor to postpone the survey to some other day.

3. I beg to call attention to the provisions of section 5 (2) of the Inland Steam Vessels Act, 1917, which is as follows :—

"The owner, master and officers of the steam-vessel shall afford to the Surveyor all reasonable facilities for a survey, and all such information respecting the steam vessel, and her machinery, or any part thereof, and all equipments and articles on board, as he may require for the purposes of a survey."

I have the honour to be,

Sirs,

Your most obedient servant.

Principal Officer,
Mercantile Marine Department, Bombay District.

REQUISITE PREPARATIONS FOR THE SURVEY OF A STEAM-VESSEL.

1. Register and last Survey Certificate, if any.
2. Master's Certificate, if any.
3. Engineer's Certificate.
4. Last Passenger Certificate.
5. Compass Adjustment Certificate signed by the Master, if fitted.
6. Boats to be uncovered and ready to lower, if fitted.

} To be on board at the time of survey.

7. Pumps to be rigged in their places.

8. Side lamps, lamp for the mast-head light, and lamp for the anchor light to be on deck ready to be put into their places, if necessary.

9. Life-buoys to be in readiness.

10. Leads and lines to be on deck.

11. Fire-hose to be connected and coupled and stretched, if fitted along the deck. The conductor to be connected.

12. Decks, cabins, steerages, and all other passenger spaces to be clean and clear and in a fit state for measurement.

13. Chain cables (or a portion thereof) to be on deck.

14. A safe and proper ladder for going up and down the holds.

15. Boilers to be empty, to be quite cool, and the man and mud hole doors to be off.

16. All furnace bars and bearer bars to be out of each boiler and bridges down.

17. Furnaces, flues, smoke-boxes, and tube plates to be swept quite clean.

18. The safety-valves and weights to be out of each boiler, and a means to be on board for weighing them.

19. All pipes and cocks at the ship's side to be accessible to the Surveyor.

20. Shaft tunnel to be clean and clear for the proper examination of the plumber blocks, thrust bearings and all covers of same and stuffing box.

21. Both bottom end and all crank shaft bearing opened up.

22. Air cir, feed and bilge pumps opened up for examination.

FORM No. 3.

(*See* Rule 6.)

MERCANTILE MARINE DEPARTMENT,
BOMBAY DISTRICT :

Bombay, 19 .

No.———————of 19 .
S

From

The Surveyor to the Port ;

To _____

Owner of S. L.———————

Sir,

Having surveyed the Steam Launch
in accordance with the Inland Steam Vessels Act, 1917, I find the following to be the repairs, etc., required to make good the defects :—

HULL.

EQUIPMENTS.

ENGINES.

BOILERS.

I have the honour to be,

Sir,

Your most obedient servant,

Engineer and Ship Surveyor to the Port.

FORM No. 4.

(*See* Rule 8.)

SURVEY OF INLAND STEAM-VESSELS.

The of 19 .

To

The Owner or Master of the Steam Vessel.

Sir,

I hereby give you notice that the certificate of survey of the above inland steam vessel applied for by is ready for delivery, and will be delivered at this office at any time during office hours on application* and payment of the following sum, viz. :—

| | Rs. | a. | p. |
|---|---|---|---|
| Forfeiture under section 8 (*2*) of the Inland Steam-vessels Act, 1917, for delay in excess of fourteen days in sending in the declaration, being at the rate of Rs. 5 per day for days .. .. | | | |
| Total .. | | | |

I am,

Sir,

Your obedient servant,

Officer appointed under section 9, sub-section (*4*), of Act I of 1917.

* *Note.*—These words must be inserted only when any sum is due under section 9 (*2*) of the Act.

FORM No. 5.

(*See* Rule 7.)

No.

SURVEYOR'S DECLARATION UNDER SECTION 7 OF ACT I OF 1917.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| Name of Steam (motor) vessel, P. of Registry and official No. | Tonnage. | When and where built, and material. | Power, nominal (brake). | Description of engines, and age. | Description of boilers, and age. | Load on safety valves per square inch. | Ground tackle. |
| Official No. | Tons. | | Nominal (brake) Horse Power. | | | Main boilers lbs.<br>Auxiliary boilers lbs. | |

| 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|
| Condition of hull. | General equipment. | Name of Master, and description of certificate, and number of officers and deck crew. | Name of Engineer or Engine-driver and description of certificate and number, and number of engine-room crew. | When and where last examined in dry dock. | Limits (if any) beyond which the vessel is not fit to ply. |
| | | Master and No. of certificate<br>No. of officers<br>No. of deck crew | Engineer or Engine-driver and No. of certificate<br>No. of E. R. crew | | |

(*Continued*)

| 15 | 16 | | | | | 17 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time if less than one year, for which the hull, boilers, engines, or any the equipment will be sufficient. | Dimensions of Boats. | | | | | Capacity for carrying passengers. | | | | | |
| For the year ending day of 19 . | Length. | Breadth. | Depth. | Cubic Capacity. | | Deck Passengers. | Second Cabin Passengers. | Saloon Passengers. | Total Passengers. | | |
| | | | | | | Tween deck or Main deck or Upper deck or Bridge. | | | Total | | |

*Declaration to be made by the Surveyor.*

I hereby declare :—

1. That on I completed the inspection of (*a*) the steam (motor) vessel of Official number

2. That the hull and machinery are sufficient for the service intended and in good condition.

3. That the boats, life-saving appliances, lights, signals, compasses, safety valves and fire hose are such and in such condition as are required by the rules under Act I of 1917.

4. That the hull, machinery and equipments will, in my judgment, be sufficient until (*b*).

5. That the load to be placed on the safety valves should not exceed the pressure in lbs. per square inch stated on page 1 of this form, and that the safety valves have been adjusted accordingly.

(*a*) If the survey was partial, state what parts were surveyed.
(*b*) Insert date or dates.

6. That the vessel, as regards the hull, machinery and equipments is, in my judgment, fit to ply as an inland steam (motor) vessel.

7. That the vessel is, in my judgment, fit to carry the number of passengers stated on page 2 of this form, provided there is no encumbrance of the space measured for passenger accommodation.

8. That the certificates of the master and engineer (engine-driver) are such as are required by Act I of 1917.

Dated at the Mercantile Marine Department, Bombay,

this day of 19 .

Engineer and Ship-Surveyor to the
Government of India.

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NOTICE.

In accordance with Government Notification, Political Department, No. 6749 (A), dated the 20th March 1930, Owners or Masters of Inland Steam Vessels are required to send Surveyor's declaration to the Principal Officer, M. M. Department, within 14 days of receipt thereof, noting the date of receipt from the Surveyors and transmission to the Principal Officer, M. M. Department, thereon.

*This Declaration was (given) (sent by Post) to the person named opposite, by the Surveyor whose signature it bears, on the date stated opposite. } Perso / Date 19

This Declaration was received this day of 19 } by me

(State whether Owner or Master.)

†And transmitted to the Port Officer, this day of 19 } by me

(State whether Owner or Master.)

Name and address of the Owner or Master to whom notice should be sent when the certificate is ready for delivery.

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*To be filled in by the Surveyor.

† To be filled in by the Owner or Master.

FORM No. 6.

(*See* Rule 9.)

**Original.**

By section 14 of the Inland Steam Vessels Act, I of 1917, all expired, cancelled or suspended Certificates of Survey granted at Bombay shall be delivered up to the Principal Officer, Mercantile Marine Department, Bombay.

No.

## CERTIFICATE OF SURVEY.

ISSUED UNDER ACT I OF 1917 OF THE GOVERNOR-GENERAL IN COUNCIL BY THE GOVERNMENT OF BOMBAY.

*For an Inland Steam (Motor) Vessel.*

To remain in force only until the day of 19

Inland Steamer (Motor Vessel)

Owner, Managing Owner, or Agent

| Port of Registry and Official Number. | Tonnage. | | Name of Master and Number of his Certificate. |
|---|---|---|---|
| | Gross. | Registered. | |
| | | | |

Limits beyond which this Vessel is not to ply.

## NUMBER OF PASSENGERS.

This Ship is, according to the declaration of the Ship Surveyor, fit to carry, when there is no incumbrance of passenger accommodation—

| Deck Passengers. | Second Cabin Passengers. | Saloon Passengers. | Crew. | Total Passengers and Crew. |
|---|---|---|---|---|
| Tween Deck ... | | | | |
| Main Deck ... | | | | |
| Upper Deck or Bridge ... | | | | |
| Total ... | | | | |

If the Space measured for Passenger Accommodation is occupied by Cattle or by Cargo, or other articles—

Then for every 4½ superficial feet of such space so occupied on the upper deck, and for every 9 superficial feet of such space so occupied on the lower deck or in the cabins } ONE PASSENGER is to be deducted from the numbers above stated.

## BOATS, LIFE-BUOYS AND EQUIPMENTS.

Required to be carried by this Ship.

| Boats | Life Buoys and Equipments. |
|---|---|
| EITHER<br><br>Boats<br><br>OR<br><br>Boat { of the aggregate capacity of } cubic feet. | A Fire Hose capable of being connected with the engine, and of sufficient length, to be used in any part of the vessel.<br><br>A Safety Valve on each boiler, out of the control of any person on board, except the Master, when the steam is up.<br><br>Compass Life-Buoys fit and ready for use. |
| | |

THIS IS TO CERTIFY that the provisions of the Law with respect to the Survey of the abovementioned Steam (Motor) Vessel and the transmission of Declarations in respect thereof have been complied with.

Signed by order of the Government of Bombay,

this day of 19 .

Examined and Registered.

Principal Officer, Mercantile Marine Department,
Bombay District.

This Certificate, unless previously cancelled or revoked, to be in force until the day of 19 .

If the Vessel is then out of a Port of Survey, she must be surveyed and have a new Certificate before she begins to ply after her next subsequent return to a Port of Survey.

Either this Certificate, or the Original thereof, furnished by the Government of Bombay, is to be put up in a conspicuous part of the Vessel, where it will be visible to all persons on board the same.

If the number of passengers carried exceeds the number stated in this Certificate, the Master or Owner shall, for every passenger over and above that number, be each liable to a Fine which may extend to Ten Rupees.

In a case of any ACCIDENT occasioning loss of life, or any material damage affecting the seaworthiness or efficiency of the Vessel, either in the hull or in any part of the machinery, a report BY LETTER, SIGNED BY THE OWNER OR MASTER, is to be forwarded to the Principal Officer, Mercantile Marine Department, Bombay, within 24 hours after the happening of the accident, or as soon thereafter as possible.

*N.B.*—Any communication addressed to the Government of Bombay relative to this Vessel should state the Name, Port of Registry, and Official Number of the Vessel, and the Number of this Certificate.

***G. N., M. D., No. 80, dated 1st July 1902.**

In supersession of Notification No. 9. dated 15th January 1896, His Excellency the Governor in Council is pleased under the provisions of section 22* of the Inland Steam Vessels Act VI of 1884, to appoint the following officers as Examiners of Masters and Serangs at Bombay under the said Act :—

| | |
|---|---|
| † The Port Officer, Bombay .. .. .. | President. |
| ‡ The Assistant Port Officer .. .. .. | Members. |
| The Harbour Master .. .. .. | |

* This Notification issued under section 22 of the Inland Steam Vessels Act, 1884 (corresponding to section 20 of the Inland Steam Vessels Act, 1917) is still in force.

† Now the Principal Officer, Bombay.

‡ Now the Nautical Surveyor, Bombay.

**G. N., M. D., No. 83/1003-B, dated 2nd July 1925 (B. G., Pt. I, p. 1797).** S. 20

In supersession of Government Notification, Marine Department, No. 83, dated the 27th July 1922, and with reference to Government Notification, Marine Department, No. 285, dated the 16th April 1913, the Governor in Council is pleased under the provisions of section 20 of the Inland Steam Vessels Act I of 1917, to appoint the following officers as Examiners of candidates for Certificates of Competency as Engineers and Engine-drivers of steam and motor ships at Bombay under the said Act :—

| | | |
|---|---|---|
| The Port Officer of Bombay .. .. | .. | President. |
| The Principal Engineer and Ship Surveyor, Bombay .. | .. | Examiners. |
| The 2nd Engineer and Ship Surveyor, Bombay .. | .. | |
| The 3rd Engineer and Ship Surveyor, Bombay .. | .. | |
| The 4th Engineer and Ship Surveyor, Bombay .. | .. | |

**G. N., M. D., No. 53 (B)/167, dated 19th February 1927 (B. G., Pt. I, p. 443).** S. 27

In exercise of the powers conferred by the first proviso to section 27 of the Inland Steam Vessels Act, 1917 (I of 1917), as applied by the Notification of the Government of India, Department of Commerce, No. 282-S., dated the 27th March 1926 (republished under Bombay Government Notification in the Marine Department, No. 53, dated the 31st March 1926), the Governor in Council is pleased to make the following rules to regulate the grant of permits to engine-drivers of inland motor vessels of 40 brake horse-power and under, namely :—

RULES FOR THE EXAMINATION OF AND GRANT OF PERMITS TO ENGINE-DRIVERS OF INLAND MOTOR VESSELS OF 40 BRAKE HORSE-POWER AND UNDER.

1. *Permits granted to person who pass the requisite examination.*—Permits will be granted to those persons who pass the requisite examinations and otherwise comply with the requisite conditions. For this purpose examiners have been appointed and arrangements have been made for holding the examinations whenever necessary at the Port of Bombay.

2. *Hours of Examinations.*—The examinations will commence at 10 a.m. and close at 5 p.m.

3. *Application how to be made.*—Candidates for examination must make their application upon Form Exn. 3 which must be filled up at the Port Office. The Form Exn. 3 properly filled in, together with the candidate's testimonials, must be lodged with the President not later than the day before the day of examination.

4. *Testimonials required.*—Testimonials of character and of sobriety, experience, ability and good conduct for at least 12 months immediately preceding the date of application to be examined, will be required of all applicants, and without producing them no person will be examined. If the service has been on shore, the testimonial must be signed by an employer ; if at sea, by either the master, managing owner or chief or superintending engineer.

5. As such testimonials and discharges may have to be verified before the candidates can be examined, it is desirable that they should be handed in, together with the Form Exn. 3, as early as possible.

6. *Testimonials of Foreigners.*—The testimonials of servitude of foreigners and of British seamen serving in foreign vessels, which cannot be verified by the President, must be confirmed either by the Consul of the country to which the ship in which the candidate served belonged, or by some other recognised official authority of that country, or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case shall be decided on its own merits, and if the sufficiency of the proofs given appears to be at all doubtful, the point shall be referred to Government.

7. *Certificate as to age.*—Should any doubt exist as to the age of the candidate he will be required to produce a certificate of birth or baptism.

8. *Foreigners to know English.*—Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board an Indian vessel.

9. Testimonials of servitude of applicants must ordinarily be based on their employer's office records.

Services claimed which cannot be verified from the employers' office records must be authenticated by affidavits of men under whom such services have been performed as well as by an affidavit of the candidate himself.

10. Candidates will be required to account for any gaps in their services with documentary evidence.

QUALIFICATIONS FOR PERMITS AS ENGINE-DRIVERS OF INLAND MOTOR VESSELS OF 40 BRAKE HORSE-POWER AND UNDER.

11. (1) A candidate must be of not less than 21 years of age.

(2) He must have served for not less than one year in a workshop where motor engines are made or repaired and for not less than six months on board a motor driven vessel which has been plying regularly ;

Or, he must have been employed for not less than one year and a half on board a motor driven vessel which has been plying regularly ;

Or, he must hold a certificate of competency as engine-driver granted under the Inland Steam Vessels Act, 1917, or the Indian Merchant Shipping Act, 1923.

(3) He must pass a *viva voce* examination before the Board of Examiners as to the working of a motor, the names and uses of its different parts and the defects which are usually met with in a motor. He must be able to explain the action of the battery in use and how to remedy its defects.

12. *Punishment for breaking Rules.*—In the event of any candidate being discovered copying from another or affording any assistance or giving any information to another, or communicating in any way with another during the time of

examination, he will be regarded as having failed in his examination, and will be turned back for three months in the same manner as if he had failed in the practical part of the examination; and no part of the fees he may have paid for examination will be returned to him.

13. *Leaving Examination Room.*—If a candidate leaves the room before answering any question which has been given to him, he cannot afterwards be permitted to answer it, but the examiners may substitute other data or another question.

14. A report of the examination, and the examination papers, will be forwarded to the President on the Form Exn. 3.

15. *Notification of having passed will be given to successful candidates—(Exn. 16).*—If the candidate passes, he will receive the Form Exn. 16, upon which the President will issue the Permit to the candidate, whose testimonials, etc., will be returned at the same time. It is therefore important that the port of destination of the Permit should be the same on both the Form Exn. 16 and the Form Exn. 3. If circumstances should make any alteration necessary, the examiners should see that it is made in both forms, otherwise delay in the issue of the Permit may be caused.

16. *Fees to be paid by applicants for examination.*—Candidates for examination, in making their application on Form Exn. 3 will be required to pay the examination fees before any step is taken, whether by inquiring into their services or testing their qualifications, etc. No part of the fee will under any circumstances be returned to them; but should it be found that their service is not sufficient to entitle them to be examined, or that their testimonials are unsatisfactory, they will be allowed to present themselves for examination without paying any further fee, when they have fulfilled the requisite service, or are able to produce satisfactory testimonials as the case may be.

17. The fee for examination must be paid in the Cash Office. In any case in which a candidate offers money to any officer other than a Cashier and in any place but in the Cash Office, the candidate so offering money will be regarded as having committed an act of misconduct and will be rejected and not allowed to be examined for the next twelve months.

18. If a candidate fails in his examinations no part of the fee he has paid will be returned to him.

19. The fee for each examination under these rules shall be Rs. 7-8-0.

20. *Failure.*—If a candidate fails in his examination he may not present himself for re-examination until he can produce proof of at least six months' further satisfactory service at sea, if the examination showed that he might be expected to qualify in that time.

21. Permits to engine drivers shall be made out and issued in the form hereunto annexed, and shall be issued by the Port Officer of Bombay.

22. Every Permit shall be made in duplicate, and one copy shall be delivered to the person entitled to the Permit, and the other shall be kept and recorded by the Port Officer of Bombay.

**Port of Bombay.**

APPLICATION TO BE EXAMINED FOR AN INLAND CERTIFICATE OF COMPETENCY AS ENGINEERS OR ENGINE DRIVERS OR PERMIT AS ENGINE DRIVERS.

Rotation No .

GOVERNMENT OF BOMBAY.

ISSUED BY ORDER OF THE GOVT. OF BOMBAY.

NOTE.—Divisions (A), (B), (C), (D), (E) and (G) of this Paper are to be filled up by the Applicant for Examination and handed to the President, Board of Examiners, with his Testimonials and former Certificate, if any.

(A) NAME, ETC., OF APPLICANT

| Christian Names at full length | Surname | Permanent Address stating Town, Street and No. of House and name of person (if any) with whom residing |
|---|---|---|
| 1 | 2 | 3 |
| | | |

| Date of Birth | | | Where born | |
|---|---|---|---|---|
| Date | Month | Year | Town | Country |
| 4 | 5 | 6 | 7 | 8 |
| | | | | |

(B) PARTICULARS OF ALL PREVIOUS CERTIFICATES (IF ANY)

| Number | Competency or Service. | Grade | Where issued | Date of issue | If at any time suspended or cancelled, state by what Court, or Authority | Date | Cause |
|---|---|---|---|---|---|---|---|
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | |

(C) CERTIFICATE NOW REQUIRED

| Grade<br>17 | Competency<br>18 | Port Office to which it is to be sent.<br>19 |
|---|---|---|
| | | |

( ) If applicant has failed in a previous Examination for the Certificate now required, he must here state when and where. If he has not failed, he must state so in writing across this Division.

| Day<br>20 | Month<br>21 | Year<br>22 | Port<br>23 | Subjects in which he failed<br>24 |
|---|---|---|---|---|
| | | | | |

(E) DECLARATION TO BE MADE BY APPLICANT.

(TAKE NOTE.—Any person who makes, procures to be made, or assists in making any false representation for the purpose of obtaining for himself or, any other person, a Certificate of Competency, is for each offence liable to be punished as for a Misdemeanour.)

I DO HEREBY DECLARE that the particulars contained in Divisions (A), (B), (C), (D) and (G) of this Form are correct and true to the best of my knowledge and belief; and that the PAPERS enumerated in Division (G) and sent with this Form are true and genuine documents, given and signed by the persons whose names appear on them. I further declare that the Statement (G) contains a true and correct account of the whole of my services without exception.

And I make this Declaration conscientiously believing the same to be true.

Dated at Bombay this day of 19 .

Signed in the presence of the President, Board of Examiners, Bombay.

Signature of Applicant.

Present Address.

(F) PRESIDENT TO EXAMINER.

THE DECLARATION (E) above was signed in my presence and the Fee of Rs. received by me.

Dated at Bombay this day of 19 .

Captain, R.I.M.,
President, Board of Examiners.

(G) LIST OF TESTIMONIALS AND STATEMENT OF SERVICE.

(The Testimonials to be numbered consecutively according to the number given in column 25 below)

| No. of Testimonials (if any) | Where employed or Ship's Name | If Service on Board Ship | | Service of Applicant. | | | | | | Remarks | Initials of Verifier. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Horse-power of Engines | Port of Registry and Official No. of Ship | Capacity | Date of Commencement | Date of Termination | Time employed in this service | | | | |
| | | | | | | | Years | Months | Days | | |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | |

## (H) Certificate of Examiner.

*Note.*—The Examiner should fill up Division (H) and (I) and in all cases as soon as possible forward this Paper to the President, Board of Examiners. If the Applicant passes, his Testimonials and previous Certificate, if any, must be sent with this Paper to the President. The new certificate and the Testimonials will be delivered to the Applicant at the Office named in Division (C), column 19.

| Date and Place of Examination. | | Insert passed or failed in each Column. | | Rank for which passed. |
|---|---|---|---|---|
| Date | Place | In working out the Questions | In the *viva voce* Examination | |
| 37 | 38 | 39 | 40 | 41 |
| | | | | |

## (I) Personal Description of Applicant.

| Height. | | Complexion. | Personal Marks or Peculiarities, if any. | Colour of | |
|---|---|---|---|---|---|
| Feet | Inches | | | Hair | Eyes |
| 42 | 43 | 44 | 45 | 46 | 47 |
| | | | | | |

I HEREBY CERTIFY that the particulars contained in Division (H) and (I) are correct.

This Form and the Testimonials are forwarded to the President.

This_____ day of_____ 19 .

To

Signature of Examiner.

The President, Board of Examiners,
Bombay.

PERMIT

AS

ENGINE DRIVER OF AN INLAND MOTOR VESSEL OF 40 BRAKE HORSE-POWER AND UNDER.

Granted under the first proviso to section 27 of the Inland Steam Vessels Act, 1917 (I of 1917), applied by the Notification of the Government of India, Department of Commerce, No. 282—S., dated the 27th March 1926, re-published under Bombay Government Notification in the Marine Department No. 53, dated the 31st March 1926.

To

WHEREAS it has been reported to me that you have been found duly qualified to fulfil the duties of engine-driver of an Inland Motor Vessel having engines of 40 Brake Horse-power and under, I do hereby, in pursuance of the abovementioned Government of India Notification, grant you this Permit as engine-driver.

This day of 19 .

Registered at the Office of the Port Officer of Bombay.

Captain, R.I.M.
Port Officer of Bombay.

---

No. of Permit

Bearer by caste

Date* and Place of Birth, showing Village, Thana, and District

Residence, showing Village, Thana, and District

Height

Personal description, stating particularly any permanent marks or scars

Signature.

Any engine-driver who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person other than the owner thereof becoming possessed of this Permit is required to transmit it forthwith to the Port Officer of Bombay.

Issued at Bombay on the day of 19 .

Captain, R.I.M.,
Port Officer of Bombay.

* If not known exactly, must be stated on the best information or evidence.

**G. N., M. D., No. 53 (c)-167, dated 19th February 1927 (B. G., Pt. I, p. 448).** S. 27

In exercise of the powers conferred by the first proviso to section 27 of the Inland Steam Vessels Act, 1917 (I of 1917), as applied by the Notification of the Government of India, Department of Commerce, No. 282-S., dated the 27th March 1926 (republished under Bombay Government Notification in the Marine Department, No. 53, dated the 31st March 1926), the Governor in Council is pleased to appoint the following officers to be examiners of candidates for Permit as engine drivers of inland motor vessels of 40 Brake Horse Power and under :—

| | | |
|---|---|---|
| The Port Officer of Bombay | ... | ... President. |
| The Principal Engineer and Ship Surveyor, Bombay | ... | ... Examiners. |
| The 2nd Engineer and Ship Surveyor, Bombay | ... | |
| The 3rd Engineer and Ship Surveyor, Bombay | ... | |
| The 4th Engineer and Ship Surveyor, Bombay | ... | |

**G. N., P. & S. D., No. 6831 (a), dated 31st May 1938 (B. G., Pt. IV-A, pp. 946-961).** S. 29

In exercise of the powers conferred by section 29 of the Inland Steam-vessels Act, 1917 (I of 1917), the Government of Bombay is pleased, in supersession of Government Notification, in the Marine Department No. 313, dated the 31st March 1915, to make the following rules regulating the examination and grant of certificates of competency to Masters and Serangs of inland steam-vessels, namely :—

## RULES.

1. *Certificates granted to persons who pass examinations.*—Certificates of Competency shall be granted to those persons who pass the requisite examinations and otherwise comply with the requisite conditions. For this purpose Examiners shall be appointed and arrangements shall be made for holding examinations whenever necessary at the port of Bombay.

2. *Date and time of examinations.*—The examinations shall be held by previous appointment on all week days except on Saturdays, Sundays and other Holidays, between 10-30 a.m. and 5 p.m.

3. *Application how to be made.*—Candidates for examination shall make their application upon the appropriate Form known as (Exn. 2*b*) which must be filled up at the Mercantile Marine Department, Bombay District, Bombay. The form properly filled in, together with the candidate's testimonials and discharges, shall be lodged with the President of the Board of Examiners not later than the day before the day of examination.

4. *Testimonials required.*—Testimonials of character and of sobriety, experience, ability and good conduct on board ship for at least the last twelve months' service preceding the date of application to be examined, shall be required from all applicants. Applicants who have not served on board ship within the last twelve months shall be required to produce, in addition to the testimonials hereinbefore mentioned, certificates of a like nature from their employers, or, if unemployed, from some respectable house-holder. No candidate shall be allowed to be examined unless he has served on board a ship at sea or on inland waters two years within the last six years, and six months within the last three years, preceding the date of his application to be examined.

5. *Testimonials of Foreigners and Indian Seamen serving in foreign Vessels.*—The testimonials of service of foreigners, and of Indian seamen serving in foreign vessels which cannot be verified by the President of the Board of Examiners must be confirmed either by the Consul of the country to which the ship, in which the candidate served, belonged, or by some other recognised official authority of that country; or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs may not of necessity be deemed sufficient. Each case shall be decided on its own merits; and if the sufficiency of the proofs given appears in any case to be doubtful, the point shall be referred to the Government of Bombay.

6. *Verification of service.*—For all grades of certificates, service in capacities other than those belonging to the deck department, i.e., as cook, steward, clerk, carpenter, etc. or in the engine room, shall not be accepted.

Testimonials of service must ordinarily be based on the employers' office records.

Services claimed which cannot be verified from the employers' office records must be authenticated by affidavits of men under whom such services have been performed as well as by an affidavit of the candidate himself.

7. *Certificate as to age.*—If any doubt arises as to the age of a candidate, he will be required to produce a certificate of birth or baptism.

8. *Knowledge of English.*—Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board an Indian vessel and must also be able to speak Hindustani. In the case of Indians who may not be able to speak English, their certificates shall be endorsed to the effect that they are valid only for vessels manned and officered entirely by persons who can speak Hindustani.

### Sight Tests.

9. (*a*) *Prescribed Tests.*—Every candidate for a certificate of competency must pass the prescribed sight tests before a certificate can be issued to him. If circumstances render it necessary for him to proceed with the examination in navigation and seamanship before undergoing the sight tests, he shall be informed that the examination in navigation and seamanship shall be cancelled in the event of his failure to pass either of the sight tests.

*Note.*—Detailed information with regard to the conduct of examination and the Standards required is contained in Appendix A.

(*b*) *Letter test.*—Every candidate for a certificate must undergo the letter test. If he has already obtained a certificate of competency before January 1st, 1914, he will only be required to possess half normal vision using both eyes together. Otherwise he must pass a higher standard, viz., normal vision using both eyes or either eye separately.

(*c*) *Lantern test.*—Every candidate must undergo the lantern test on every occasion on which he presents himself for examination for his first certificate of competency; but, if he then passes, he shall not be required to undergo the lantern test on any subsequent occasion.

(*d*) *Passing or failure in examination—Letter test.*—If the candidate passes the letter test, he will proceed to the lantern test, unless he holds a certificate of competency. If he fails in the letter test, he may—

(*i*) proceed to the lantern test, in which case the results of both tests will be taken into consideration in deciding whether he is to be passed; or

(*ii*) break off the examination and present himself for re-examination in not less than three months' time.

(2) *Lantern test.*—If the candidate passes the lantern test after passing the letter test, he shall be deemed to have passed the examination.

If the result of the lantern test is inconclusive, or if the candidate passes it after failing in the letter test, his case shall be submitted on the prescribed form known as Exn. 17 (*b*) to the Principal Officer, Mercantile Marine Department, Bombay District, who shall decide whether he has passed, or failed or whether he shall be referred for a special examination.

If the candidate fails to pass a lantern test, the Examiner shall point out to him the conditions stated in paragraph (*f*) under which he can appeal. Appeals shall be made through the Principal Officer, and forwarded to the Government of Bombay with the Examiner's remarks.

A candidate who fails to pass the lantern test, shall not be re-examined unless the Principal Officer decides that he may be re-examined after a lapse of three months. The certificate in the form (Exn. 16-A) which is issued to the candidate will state whether he may or may not be re-examined.

(*e*) *Special examination : Referred cases.*—In the case of a candidate who is referred for further examination the Principal Officer shall make arrangements for a special examination for which no additional fee shall be charged.

(*f*) *Special examination : Appeal cases.*—A candidate who is adjudged to have failed in the lantern test may appeal to the Government of Bombay who may, if they think fit, remit the case to a special body of examiners for decision. Such candidate shall be required to pay a special fee of Rs. 32 which will be returned to him if he is declared to have passed the special examination.

(*g*) *Special examination : Candidates must attend punctually.*—Candidates who are referred for a special examination or who appeal from the result of the local tests are notified by the Government of Bombay of the time at which they should attend for special examination and are expected to inform the Principal Officer whether or not they will be able to attend at that time. Any candidate who, after informing the Principal Officer that he will attend, fails to appear at the time appointed shall be liable to have his examination postponed indefinitely and alone if he has appealed under paragraph (*f*) will forfeit the appeal fee of Rs. 32 and will be required to deposit a further fee of the same amount before further arrangements are made for his special examination.

(*h*) *Failure in special examination.*—Where during the course of a special examination, a candidate who has appealed or has been referred is found to have a permanent defect in his eye-sight such as to render him unfit for a sea career, he shall be finally rejected and shall not be allowed to be examined again in the sight test on any future occasion : Provided that if the candidate is still dissatisfied,

it will be open to him, if he so desires, to present himself for a second special examination on payment of a fee of rupees seventy-five. Such candidate shall be required to bring with him a friend to witness the examination.

A second examination under this rule shall be entirely voluntary and shall form no part of the examination for a certificate of competency. The Government of Bombay may take into consideration the result of such examination in determining whether a certificate shall be granted.

The special appeal fee of rupees seventy-five shall not be returnable, unless, in the special circumstances of an individual case, the Government of Bombay see fit to refund it.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS SERANG.

10. *Examination in prescribed sight tests.*—All candidates for certificates of competency as serang must first be examined in prescribed sight tests.

11. *Age.*—A candidate for a certificate as serang of an inland steam vessel must be not less than 21 years of age and must produce satisfactory testimonials of sobriety and intelligence.

12. *Qualifications.*—Such candidate must have served five years at sea or on inland waters, one year of which service must be as helmsman. He shall be examined *viva voce* as to his knowledge of the following subjects :—

(*a*) The rule of the road as regards both steam vessels and sailing vessels, their regulation lights, fog and sound signals.

(*b*) The marking and use of the lead line.

(*c*) Management of a boat under oars or sail.

(*d*) Steps to be taken in the event of a vessel grounding.

(*e*) Management of small inland steam vessels under all conditions.

(*f*) The provisions of sections 3, 29, 32, 52 to 64 of the Inland Steam Vessels Act, 1917 (I of 1917).

13. *Failure.*—If a candidate fails in an Examination for a certificate of competency as serang, he shall not be re-examined till he has rendered additional service for three months as helmsman.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS SECOND CLASS MASTER.

14. *Examination in prescribed sight tests.*—All candidates for certificates of competency as Second Class Master must first be examined in prescribed sight tests.

15. *Age.*—A candidate for a certificate as second class master of an inland steam vessel must be not less than 22 years of age and must produce testimonials of sobriety and intelligence.

16. *Qualifications.*—Such candidate must have served at least six years at sea or on inland waters, three years of which service must have been as chief helmsman of a steam vessel of not less than 50 nominal horse-power, or two years as a certificated serang and one year as helmsman of a steam vessel of not less than 50 nominal horse power, or three years as serang in charge of a steam vessel of not less than 20 nominal horse-power. In addition to the qualifications required for the grade of serang, a second class master shall be examined *viva voce* as to his knowledge of the following subjects :—

(*a*) Management of small inland steam vessels and river steamers under all conditions.

(*b*) Knowledge of storm and distress signals.

(*c*) Knowledge of the chart.

(*d*) Knowledge of the compass.

(*e*) Local knowledge of Bombay Harbour, as to anchorages, shoals, buoyage, beacons, lights and other such matters.

17. *Failure.*—If a candidate fails in an examination for a certificate of competency as Second Class Master he shall not be re-examined till he has rendered additional service for three months as helmsman of a vessel of not less than 50 nominal horse-power or as a serang in charge of an inland steam vessel of not less than 20 nominal horse-power.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS FIRST CLASS MASTER.

18. *Examination in prescribed sight tests.*—All candidates for certificates of competency as First Class Master must first be examined in prescribed sight tests.

19. *Age.*—A candidate for a certificate as first class master of an inland steam vessel must be not less than 25 years of age and must produce testimonials of sobriety and intelligence.

20. *Qualifications.*—Such candidate must have s rved as second class master in charge of a steam vessel of not less than 30 nominal horse-power for three years, or he must be not less than 22 years of age, hold a certificate of competency as second mate or Mate home Trade granted under the Indian Merchant Shipping Act, 1923 (XXI of 1923), or the English Merchant Shipping Act, 1894, and subsequent enactment on the subject of merchant shipping, and have served as mate of inland steam vessel for not less than one year :

Provided that, in the case of a candidate for a certificate as first class master, service as a master of a steam self-propelling dredger for one year, and as mate of an inland or home trade vessel or relievir g officer or mate of a self-propelling dredger for three years, shall be accepted as sufficient qualification.

21. *Additional qualification.*—In addition to the qualifications required for the grades of serang and second class master, a first class master shall be examined *viva voce* in each of the following subjects :—

(*a*) Knowledge of Bombay Harbour and its vicinity, anchorages, shoals, buoyage, beacons, lights, and other such matters ; also a knowledge of the title table and effect of currents.

(*b*) How to turn a steamer short round, bring her to an anchor and get under weight ; also how to bring a vessel alongside a jetty, pier or wharf and take her off again and precautions to be taken with regard to engines.

(*c*) Steps to be taken with regard to fire.
(*d*) Steps to be taken in case a man falls overboard.
(*e*) The provisions of the Inland Steam-vessels Act, 1917 (I of 1917).

22. *Failure.*—If a candidate fails in an examination for a certificate of competency as First Class Master he will not be re-examined till he has rendered additional service for six months as second class master of an inland steam vessel of not less than 30 nominal horse-power or as mate of a river steamer.

CERTIFICATES GRANTED IN CASE OF FAILURE IN EXAMINATION.

23. *Certificate of lower grade.*—If a candidate has failed in any examination, but the subjects in which he has failed are not included in the subjects required for a certificate of a lower grade, he may, if he desires it, receive a certificate of such lower grade.

24. *No refund of fee permitted.*—No part, however, of the fee he has paid shall be returned to him, and on presenting himself, when entitled so to do, for re-examination for the higher grade of certificate he shall be required to pay the full fee again.

FEES.

25. *When fees are to be paid.*—Candidates for examination, in making their application on the prescribed Form known as Exn. 2*b*, shall be required to pay the examination fee before any step is taken, whether by inquiring into their services or testing their qualifications or otherwise. Should it be found that their service is not sufficient to entitle them to be examined, or should their testimonials be unsatisfactory, or should they from any other cause not be examined, no part of the fee shall be returned to them, but when they have fulfilled the requisite service or are able to produce satisfactory testimonials, as the case may be, they shall be allowed again to present themselves for examination for a certificate of the same grade without paying any further fee.

26. *Where fees are to be paid.*—The fee for examination must be paid in the Cash Office of the Mercantile Marine Department, Bombay District, Bombay. In any case in which a candidate offers money to any person other than the cashier, and in any place except in the Cash Office, the candidate so offering money shall be guilty of misconduct, and shall not be allowed to appear for that examination or for another examination for a period of 12 months.

27. *Refund of fees.*—The fee paid for examination for a certificate of competency includes the fee of rupees two for examination in sight tests and if a candidate fails to pass those tests, this fee shall, with the exception of rupees two, be returned to him. If a candidate fails to pass any other part of the examination no part of the fee shall be returned to him.

28. *Scale of fees.*—The fees are as follows :—

| | Rs. |
|---|---|
| Serang's Certificate ... ... ... | 4 |
| Second Class Master's Certificate ... ... ... | 6 |
| First Class Master's Certificate ... ... ... | 16 |

29. *Grant of certificates.*—If the candidate satisfies the Examiners as to his knowledge of the prescribed subjects, and generally as to his competency to command an inland river steamer, they shall certify the same to the President, who will then grant a certificate to the candidate.

GENERAL.

30. *Forms of certificates.*—Certificates of competency of first and second class masters and serangs shall be made and issued in the forms hereunto annexed.

31. *Certificates to be in duplicate.*—Every certificate of competency shall be made in duplicate, and one copy shall be delivered to the person entitled to the certificate, and the other shall be kept and recorded by the Principal Officer, Mercantile Marine Department, Bombay District, Bombay.

32. *Certificates granted by other Governments.*—A certificate of competency (or service) granted by the Government of any other State in India shall be endorsed by the Government of Bombay as having effect in this State after the holder thereof has passed a supplementary examination before the Board of Examiners as to his local knowledge of the port for which he desires a certificate. Half the usual fee will be charged for this examination.

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## APPENDIX A.

(*See* Rule 9.)

SIGHT TESTS.

*Details as to the conduct of the tests.*

The object of these tests is to ensure that the candidate's eyesight is sufficiently good to enable him to pick up and identify correctly the lights of distant ships at sea. Experience has shown that for this purpose he must be able to reach certain minimum standards both of form and colour vision.

The tests employed are two, a Letter Test and a Lantern Test, details of which are given below. The Letter Test is a Test of form vision only, and the Lantern Test is a test of form and colour vision combined.

The tests must be conducted under the strict personal supervision of the Examiner. A careful record must be kept of all mistakes made by the candidate both in the letter test and in the lantern test.

Each Examiner shall keep a record of all candidates passed by him for reference when required.

*Spectacles not allowed.*—During the examination in the sight tests candidates shall not be allowed to use spectacles or glasses of any kind or any other artificial aid to vision. They will, however, have the option of using either eye separately or both eyes together.

I. LETTER TEST.

1. *Letter test to be taken first.*—The first test which the candidate is required to undergo is the letter test.

2. *Apparatus used.*—The letter test to be used for all candidates is that conducted on Snellen's principle by means of sheets of letters.

3. *Standard of vision required.*—With the exceptions indicated below (see paragraph 6), every candidate will be required to read correctly nine of the twelve letters in the sixth line and eight of the fifteen letters in the seventh line of a test sheet placed in a good light at a distance of 16 feet from the eye.

4. *Method of testing.*—The test sheets should be hung on the wall, *in a good light, but not in direct sunlight*, at a height of five or six feet from the ground. The candidate should be placed at a distance of exactly 16 feet from the sheets, and exactly opposite them. This distance should be carefully measured, and should never in any circumstances be varied.

One of the sheets should then be exposed, and the candidate should be asked to read the letters on each sheet, beginning at the top and going downwards. Any mistakes which he makes should be carefully noted. If then it is found that he has read correctly at least nine letters in the sixth line and eight letters in the seventh line of a sheet, the candidate may be considered to have normal vision, and should be marked "passed" in the appropriate column of the form of application (Exn. 2B).

5. *Passing or failure.*—If at the conclusion of the test the candidate is found to reach the required standard, he may be considered to have passed, and the Examiner should proceed with the lantern test, unless the candidate holds a certificate of competency. If the candidate fails to reach the standard required for the certificate entered for, he should be tested with at least four sheets, and the Examiner should record on the prescribed form known as Exn. 17 (*b*) the number of mistakes made in each line of each sheet, and explain to the candidate the alternatives mentioned in rule 9 (*d*).

Failure to pass the letter test is due to some defect in form vision, and such defects are sometimes curable. Whenever, therefore, a candidate fails to pass this test the Examiner should advise him to consult an ophthalmic surgeon with a view to ascertaining what is the nature of the defect in his form vision, and whether it is curable.

6. *Lower standard required in certain cases.*—Candidates who are in possession of certificates obtained before January 1st, 1914, may be regarded as passing the letter test if they can read correctly with both eyes at least five of the eight letters in the fifth line of a test sheet.

7. *Tests to be varied.*—The Examiner should take care, by varying the order of the test sheets and by every other means in his power, to guard against the possibility of any deception on the part of the candidate.

II. LANTERN TEST.

8. *Apparatus.*—A special lantern and a mirror have been provided for this test. The lantern should be placed directly in front of the mirror, so that the front part of the lantern is exactly ten feet from the mirror. Care should be taken that the lantern is properly placed, that is to say, the lights reflected in the mirror must show clearly when viewed from the position of the candidate on the left of the lantern. The Examiner should always satisfy himself that these conditions are fulfilled before commencing the examination.

9. *Darkness adaptation.*—If a candidate makes mistakes at the beginning of the lantern test he should be kept in a completely or partially darkened room for at least a quarter of an hour and should then begin the test again.

Before the examination commences the Examiner must satisfy himself that the room in which it is conducted is so darkened as to exclude all daylight.

10. *Method of testing.*—The lantern supplied for the examination is so constructed as to allow one large or two small lights to be visible, and is fitted with 12 glasses of three colours—red white and green. At the commencement of the examination the Examiner should show to the candidate a series of lights through the large aperture, and should require him to name the colours as they appear to him. Care should be taken in showing the white light to emphasise the fact that the light is not a pure white. If a candidate makes a mistake of calling this light "red" a proper red light should be shown immediately after and the candidate's attention directed to the difference between the two.

After a series of lights through the large aperture has been shown, the examiner should make a complete circuit with the two small apertures, requiring the candidate to name the colours of each set of two lights from left to right. To prevent any possibility of the order in which the lights are arranged from being learnt, the Examiner should at least twice in each circuit go back a varying number of colours.

A record of any mistake made with either the large aperture or the two smaller apertures should be kept on prescribed Form known as Exn. 17 (*b*) in accordance with the instructions thereon.

11. *Passing or failure.*—If a candidate with either the large aperture or the two smaller apertures of the lantern mistakes red for green or green for red, he should be considered to have "failed" in the lantern test.

If the only mistake made by the candidate with the lantern, is to call the white light "red" and if after his attention has been specially directed to the difference between the two he makes no further mistake of this nature, he should be considered to have passed in the lantern test.

If a candidate makes any other mistake with the lantern i.e., if he calls white "red" repeatedly or red "white" at all, or confuses green and white, his case should be reported to the Principal Officer, Mercantile Marine Department, Bombay District, and he should be told that the decision as to whether he is passed or failed, or must undergo a further examination will be communicated to him in due course. Pending the receipt of the Principal Officer's instructions such a candidate should only be allowed to proceed with the remainder of the examination for a certificate of competency on the express understanding that the latter examination will be cancelled in the event of failure in the Sight Tests.

MO-B Bk H 715—65

12. *Further examination and appeals.*—If in the case covered by the preceding paragraph the Principal Officer decides that a further examination is necessary, arrangements will be made for a special examination.

If, however, on the report of the Examiner, the Principal Officer decides that the nature of the mistakes made shows conclusively that a candidate's sight is so defective as to render him unfit to hold a certificate, the candidate shall be considered to have failed.

In cases where, upon the report of the Examiner, a candidate is plucked by the Principal Officer, as well as in the case of a special examination, the Government of Bombay may allow a candidate who is dissatisfied with this decision to appeal for a further examination, subject to the conditions set out in rule 9.

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BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY
AS
FIRST CLASS MASTER OF AN INLAND STEAM-VESSEL UNDER
ACT I OF 1917.

To ——————————————————————

*Whereas it has been reported to the Government of Bombay that you have been found, after examination, duly qualified to fulfil the duties of First Class Master of an Inland Steam Vessel under Act I of 1917, I do hereby grant you this Certificate of Competency as such First Class Master.*

This day of 19 .

Countersigned.

Principal Officer,
Mercantile Marine Department,
Bombay District.

By order of the Governor of Bombay,

Secretary to the Government of Bombay.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay, District.

(*On the reverse*).

No. of Certificate.

Bearer——————————by caste——————————
Date* and place of Birth showing Village, Thana and District——————————
Residence, showing Village, Thana and District——————————
Height——————————
Personal description, stating particularly any permanent marks or scar——————
Signature——————————

* If not known exactly, must be stated on the best information or evidence.

*Any Master who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.*

*N.B.—Any person other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.*

Issued at Bombay on the———— day of————19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

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BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY
AS
SECOND CLASS MASTER OF AN INLAND STEAM-VESSEL
UNDER ACT I OF 1917.

To ————————————————————

*Whereas it has been reported to the Government of Bombay that you have been found, after examination, duly qualified to fulfil the duties of Second Class Master of an Inland Steam-Vessel under Act I of 1917, I do hereby grant you this Certificate of Competency as such Second Class Master.*

This———— day of————19 .

By order of the Governor of Bombay,

Countersigned.

Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

MO-B Bk H 715—65*a*

*(On the reverse.)*

No. of Certificate.

Bearer———— by caste————

Date* and place of Birth showing Village, Thana and District————

Residence, showing Village, Thana and District————

Height————

Personal description, stating particularly any permanent marks or scars————

Signature ————

*Any Master who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.*

*N.B.—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.*

Issued at Bombay on the———— day of————19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

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BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY.
AS
SERANG OF AN INLAND STEAM-VESSEL
UNDER ACT I OF 1917.

To

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*Whereas it has been reported to the Government of Bombay that you have been found, after examination, duly qualified to fulfil the duties of Serang of an Inland Steam-*

* If not known exactly, must be stated on the best information or evidence,

*Vessel under 40 N. H. P. under Act I of 1917, I do hereby grant you this Certificate of Competency as such Serang.*

This———— day of————19 .

By order of the Governor of Bombay,

Countersigned.

Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

(*On the reverse.*)

No. of Certificate—

Bearer———— by caste————
Date* and place of Birth, showing Village, Thana and District————
Residence, showing Village, Thana and District————
Height————
Personal description, stating particularly any permanent marks or scars————
————
Signature ————

*Any Serang who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.*

*N.B.—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.*

Issued at Bombay on the———— day of————19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

* If not known exactly, must be stated on the best information or evidence.

**G. N., P. & S. D., No. 6831 (b), dated 31st May 1938 (B. G., Pt. IV-A, pp. 961-1001).**

In exercise of the powers conferred by section 29 of the Inland Steam-vessels Act, 1917 (I of 1917), the Government of Bombay is pleased, in supersession of Government Notification in the Marine Department No. 581, dated the 29th June 1914, to make the following rules regulating the examination and grant of certificates of competency to Engineers and Engine-Drivers of inland steam-vessels, namely :—

RULES.

1. *Certificates granted to persons who pass examinations.*—Certificates of competency shall be granted to those persons who pass the requisite examinations and otherwise comply with the requisite conditions. For this purpose Examiners shall be appointed and arrangements shall be made from time to time for holding the examinations whenever necessary at the port of Bombay.

2. *Date and time of Examination.*—The examinations of 1st and 2nd Class Engine-Drivers shall be held by appointment on week days except Saturdays, Sundays and Holidays, between 10-30 a.m. and 5 p.m.

The examination of Engineers shall be held monthly on the dates fixed for the examination of sea-going Engineers. These dates can be ascertained from the office of the Principal Officer, Mercantile Marine Department, Bombay District.

3. *Application how to be made.*—Candidates for examination shall make their application upon the Form called Exn. 3, which must be filled up at the Mercantile Marine Department, Bombay District, Bombay. The form properly filled in, together with the candidate's testimonials, shall be lodged with the President of the Board of Examiners not later than the day before the day of examination.

4. *Testimonials required.*—Testimonials of character and of sobriety, experience, ability and good conduct for at least the twelve months immediately preceding the date of application to be examined, shall be required from all applicants, and without producing them no person shall be examined. If the service has been on shore, the testimonial must be signed by an employer ; if at sea, by either the master, managing owner, chief or superintending engineer.

5. *Handing in of testimonials, etc.*—As testimonials and discharges may have to be verified before the candidates can be examined, they should be handed in together with the Form Exn. 3, as early as possible.

6. *Testimonials of Foreigners and Indian Seamen serving in foreign vessels.*—The testimonials of service of foreigners and of Indian seamen serving in foreign vessels, which cannot be verified by the President of the Board of Examiners, must be confirmed either by the Consul of the country to which the ship in which the candidate served belonged, or by some other recognised official authority of that country, or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case shall be decided on its own merits ; and if the sufficiency of the proofs given appears to be doubtful, the case shall be referred to the Government of Bombay.

7. *Certificate as to age.*—Should any doubt exist as to the age of a candidate, he shall be required to produce a certificate of birth or baptism.

8. *Knowledge of English.*—Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board an Indian vessel and must be able to speak Hindustani. In the case of Indians who may not be able to speak English their certificates shall be endorsed to the effect that they are valid only for vessels manned and officered by persons who can speak Hindustani.

9. *Verification of service.*—Testimonials of service of applicants must ordinarily be based on the employers' office records.

Services claimed which cannot be verified from the employers' office records must be authenticated by affidavits of persons under whom such services have been performed as well as by an affidavit of the candidate himself.

10. *Gaps in service.*—Candidates should be required to supply gaps in their services with documentary evidence.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS SECOND CLASS ENGINE-DRIVERS.

11. *Age.*—A candidate for a certificate of competency as second class Engine-Driver must have attained the age of twenty-one years.

12. *Qualifications.*—Such candidate must have served—

(*a*) an apprenticeship of at least three years in the making or repairing of steam-engines and one year in the engine-room of a steamer; or

(*b*) four years in the engine-room of a steamer of not less than 20 nominal horse-power at sea, or on inland waters under a certificated engineer or first class engine-driver, one year of which service must have been as a serang or tindal; or

(*c*) five years in the engine-room of a steamer at sea or on inland waters; one year of this period must have been as a tindal or principal fireman when one only is employed in a vessel of not less than 15 nominal horse-power; or

(*d*) for two years in charge of the engines of a factory or mill under a certificated engineer as well as one year in the engine-room of a steamer as serang or tindal or principal fireman when one only is employed.

13. *Additional Qualification.*—Such candidate shall also satisfactorily pass a *viva voce* examination as to the working of marine engines and boilers and the uses of the different parts and fittings, also as to the use of brine cocks, the salinometer and blowing off, the care of boiler in salt or foul water, and the art of economical stocking and prevention of smoke.

14. *Practical test.*—Such candidate must be able, if required, to show his practical qualifications by actually working the engines of a small steamer, after fulfilling all the other tests to which he will be subjected.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS FIRST CLASS ENGINE-DRIVERS.

15. *Age.*—A candidate for certificate of competency as first-class engine-driver must have attained the age of twenty-two years.

16. *Qualifications.*—Such candidate must have served—

(*a*) an apprenticeship of three years in the making or repairing of steam-engines, and one year as assistant engineer, in a steamer having engines of not less than 80 nominal horse-power whilst holding a second class engine-driver's certificate; or

(*b*) for at least six years in the engine-room of a steamer at sea or on inland waters, two years of which service must have been as a serang or principal tindal of a steamer having compound surface condensing engines of not less than 30 nominal horse-power whilst holding a second class engine-driver's certificate; or

(*c*) for one year as second driver with a second class engine-driver's certificate in charge of a watch on the main engines and boilers of a steamer having compound surface condensing engines of not less than 30 nominal horse-power; or

(*d*) for one year with a second class engine-driver's certificate as driver in charge of the engines of a steamer having compound surface condensing engines of not less than 20 nominal horse-power; or

(*e*) for eighteen months as serang or principal tindal with a second class engine-driver's certificate in charge of a watch on the main engines and boilers of a steamer having compound surface condensing engines of not less than 30 nominal horse-power; or

(*f*) for three years in charge of the engines of a factory or mill under a certificated engineer, as well as two years as assistant engineer, serang or principal tindal of a steamer having engines of not less than 80 nominal horse-power whilst holding a second class engine-driver's certificate.

17. *Testimonials required.*—Such candidate must have the testimonial shown in Appendix A filled up by the engineer with whom he has last served, or his other testimonials must contain all the particulars therein required.

18. *Additional qualifications.*—Such candidate must pass in a *viva voce* examination similar to that required by Rule 13 for a second class engine-driver's certificate but of a more advanced character.

19. *Practical test.*—Such candidate must also be able, if required, to show his practical qualifications by actually working the engines of a steamer after fulfilling all the other tests to which he will be subjected.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS ENGINEERS.

20. *Age.*—A candidate for a certificate of competency as engineer must not be less than twenty-two years of age.

21. (*a*) *Qualifications.*—Such candidate must have served as an apprentice engineer for four years and prove that during the period of his apprenticeship he has been employed on the making or repairing of steam-engines, boilers or in any such capacity.

Journeyman's time will be considered as equivalent to apprenticeship.

In addition to the apprenticeship described above, the applicant must have served two years thereafter as assistant engineer in a steamer having engines of not less than 80 nominal horse-power or with a first class engine-driver's certificate as driver in charge of the engines of a steamer having compound surface condensing engines of not less than 30 nominal horse-power, or failing the above service, he must have served four years with a first class engine-driver's certificate, in charge of the engines of a steamer having compound surface condensing engines of not less than 30 nominal horse-power ;

(*b*) be able to give a satisfactory description of boilers, and the methods of staying them, together with the use and management of the different valves, cocks, pipes and connections ;

(*c*) understand how to correct defects from accident, decay, etc., and the means of repairing such defects ;

(*d*) understand the use of the water gauge, pressure gauge, barometer, thermometer and salinometer, and the principles on which they are constructed ;

(*e*) state the causes, effects, and usual remedies for incrustation and corrosion ;

(*f*) be able to explain the method of testing and altering the setting of the slide valves, and method of testing the fairness of shafts and adjusting them ;

(*g*) be able to calculate the suitable working pressure for a steam boiler of given dimensions, and the stress, per square inch, on crank and tunnel shafts when the necessary data are furnished ;

(*h*) understand the construction of steering engines, evaporators, feed filters and feed heaters ;

(*i*) understand the construction of centrifugal bucket, and plunger, pumps and the principle on which they act ;

(*j*) be able to state how a temporary or permanent repair could be effected in case of derangement of a part of the machinery, or a total breakdown ;

(*k*) write a legible hand, and have a good knowledge of arithmetic up to and including vulgar and decimal fractions and square and cube roots. He must also understand the application of these rules to questions about safety valves, coal consumption, consumption of stores, capacities, of tanks, bunkers, etc. ;

(*l*) be able to pass an examination as to the various constructions of paddle and screw engines in general use, as to the details of the different working parts, external and internal, and the use of each part ;

(*m*) possess a fair knowledge of the prominent facts relating to combustion, heat and steam ;

(*n*) have a fair knowledge of the rudiments of projection and be able to make a dimensioned working drawing of some simple part of the machinery with which he ought to be familiar or to complete and develop a given example. Drawing boards and T-squares will be provided but candidates will have to bring with them any drawing instruments they require.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS SECOND CLASS ENGINE-DRIVERS OF INLAND MOTOR VESSELS.

22. *Age.*—A candidate for a certificate of competency as second class engine-driver of an inland motor vessel must have attained the age of 21 years.

23. *Qualifications.*—Such candidate must possess one of the following qualifications, namely :—

(*a*) he must have served for not less than three years as an apprentice or journeyman in the making, fitting and/or repairing of internal combustion or marine steam engines and in addition he must have served for six months in the engine-room of a motor vessel having engines of not less than 85 brake horse-power or nine months in a vessel with engines of not less than 40 brake horse-power ; or

(*b*) for a period of not less than four years in the engine-room of a motor vessel of not less than 226 brake horse-power, of which period not less than one year must have been served as serang, principal tindal or chief greaser :

Provided that of the four years mentioned above one-third may be served in the engine-room of a steam vessel of not less than 40 nominal horse-power ; or

(*c*) for a period of not less than five years in the engine-room of a motor vessel having engines of not less than 85 brake horse-power, or six years in the engine-room of a vessel having engines of not less than 40 brake horse-power of which period not less than one year must have been as serang, tindal or chief greaser :

Provided that of the five and six years' service mentioned above one-third may be served in the engine-room of a steam vessel of not less than 10 nominal horse-power ; or

(*d*) for a period of not less than two years in charge of the engines of a factory or mill under a certificated engineer, as well as for a period of not less than one year in the engine-room of a motor vessel of not less than 85 brake horse-power, or 18 months in a motor vessel having engines of not less than 40 brake horse-power, as serang, tindal or chief greaser ; or

(*e*) for at least six months with a second class engine-driver's certificate for steam vessels or with a certificate of a higher grade in the engine-room of a motor vessel having engines of not less than 85 brake horse-power or for nine months in a motor vessel having engines of not less than 40 brake horse-power ; or

(*f*) for at least two years, whilst in possession of a permit, as an engine-driver of an inland motor vessel having engines of 40 brake horse-power or under followed by three years' service in the engine-room of a motor vessel having engines of more than 40 brake horse-power as serang, tindal or chief greaser :

Provided that when the candidate produces proof of long service with a permit in launches having engines of 40 brake horse-power or under, remission of service with engines of over 40 brake horse-power may be allowed in the ratio of one year in lower powered launches in lieu of six months' service in higher powered launches with a maximum remission of 18 months. The service to count for remission must be in excess of the two years required in launches of 40 brake horse-power or under.

24. *Additional qualifications.*—Such candidate must (*a*) satisfactorily pass a *viva voce* examination on the working of the various types of internal combustion engines and be able to name the principal parts of the machinery ;

(*b*) know what attention is required by the various parts of the machinery, understand the use and management of the different valves, cocks, pipes and connections, and be familiar with the various methods of supplying air, and fuel to the cylinders ;

(*c*) be able to describe the chief causes which may make the engine difficult to start and to explain how he would proceed to remedy any defects connected therewith ; he must also be able to show that he understands the mechanism of the starting and reversing arrangements and that he is competent to deal with defects therein ;

(*d*) be able to overhaul the engine, to adjust the working parts and to put the engine together again in good working condition. He must also understand how to make good the result of ordinary wear and tear, to the machinery and how to correct defects from accidents ;

(*e*) be familiar with the nature and properties of the various fuel oils used in internal combustion engines. He must understand what is meant by " flash point " ; and

(*f*) know the danger resulting from leakage from the fuel oil tanks and must understand the precautions to be taken against explosion. He must also be able to take the necessary precautions to guard against the escape of inflammable vapour from the vapourizer when the engines are stopped. He must know how to deal with fire, should it break out.

25. *Practical test.*—The candidate must also be able, if required, to show his practical knowledge by actually working the engines of a motor vessel in the presence of the Examiner.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS FIRST CLASS ENGINE-DRIVER OF INLAND MOTOR VESSELS.

26. *Age.*—A candidate for a certificate of competency as first class engine-driver of an inland motor vessel must have attained the age of 22 years.

27. *Qualifications.*—Such candidate must possess one of the following qualifications, namely :—

(*a*) he must have served for not less than one year as engine-driver on regular watch on the main engines of a motor vessel of not less than 565 brake horse-power, whilst holding a second class engine-driver's certificate for motor vessels ; or

(*b*) for a period of not less than 18 months as second driver with a second class engine-driver's certificate for motor vessels in charge of a watch on the main engines of a motor vessel of not less than 226 brake horse-power ; or

(*c*) for a period of not less than four years in the engine-room of a motor vessel of not less than 226 brake horse-power of which period not less than one year must have been served as a chief greaser, serang or principal tindal whilst holding a second class engine-driver's certificate for motor vessels.

If the motor vessel is of not less than 170 brake horse-power, he must have served at sea or on inland waters for a period of not less than five years in such vessel, of which period not less than two years must have been served as a serang, principal oilman or chief greaser, whilst holding a second class engine-driver's certificate for motor vessels ; or

(*d*) for a period of not less than 18 months with a second class engine-driver's certificate for motor vessels as driver in charge of the engine of a motor vessel of not less than 113 brake horse-power ; or

(*e*) for not less than two years as a serang, principal tindal or chief greaser with a second class engine-driver's certificate for motor vessels in a motor vessel of not less than 226 brake horse-power ; or

(*f*) for not less than three years in charge of the engines of a factory or mill under a certificated engineer as well as for not less than one year in the engine-room of a motor vessel of not less than 226 brake horse-power, as assistant engineer, serang, principal tindal or chief greaser, whilst holding a second class engine-driver's certificate for motor vessels ; or

(*g*) for not less than two years as engine-driver on regular watch on the main engines of a motor vessel of not less than 226 brake horse-power, whilst holding a first class engine-driver's certificate granted under the Act ; or

(*h*) for not less than four years as engine-driver on regular watch on the main engines of a motor vessel of not less than 226 brake horse-power, whilst holding a second class engine-driver's certificate granted under the Act ; or

(*i*) hold an engine-driver's certificate for sea-going steam-ships granted under the Indian Merchant Shipping Act, 1923, and must have served on regular watch on the main engines of a motor vessel of not less than 226 brake horse-power for a period of not less than one year.

28. *Additional Qualification.*—Such candidate must pass a *viva voce* examination similar to that required by rules 24 and 25 for a second class engine-driver's certificate but of a more advanced character.

29. *Temporary permits.*—(1) A person who has served at sea or on Inland Waters :—

(*i*) for a period of three years as Driver in charge of the engines of a Motor Vessel of not less than 60 brake horse-power followed by a further period of two years in charge of the engines of a Motor Vessel of not less than 85 brake horse-power ; or

(*ii*) for a period of two years as Second Driver of a Motor Vessel having engines of not less than 180 brake horse-power whilst holding a Certificate of Competency as Second Class Engine Driver of an Inland Motor Vessel, during which period he must have been in charge of a watch for eight hours per day ; or

(*iii*) for a period of five years as Driver in charge of the engines of a Motor Vessel of not less than 70 brake horse-power may, on undergoing an examination to the satisfaction of the Principal Engineer and Ship Surveyor, be granted a permit to take charge of the engines of an Inland Motor-Vessel up to a maximum of 360 brake horse-power in order to enable him to acquire the requisite qualifying service for a First Class Engine Driver's Certificate of Competency.

(2) A permit granted under sub-rule (1) shall be valid for a period of eighteen months from the date of issue and shall not be renewable.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY AS ENGINEERS OF INLAND MOTOR VESSELS.

30. *Age.*—A candidate for a certificate of competency as Engineer of an inland motor vessel must have attained the age of 22 years.

31. *Qualifications.*—Such candidate must possess the following qualifications, namely :—

(*a*) he must have served for not less than four years as an apprentice engineer or journeyman in the making fitting and repairing of steam or motor-engines such as would be recognised as affording useful training for a marine engineer. No time served before the age of 15 will be accepted. Not less than three years of this period must have been spent at fitting, erecting or repairing internal combustion engines. The remaining year may have been spent either wholly or in part on work of this nature, or at an approved technical school as mentioned in the rules for examination of sea-going engineers.

Service as journeyman will be considered as equivalent to apprenticeship, but no time served before the age of 15 is reached will be accepted.

Workshop service other than the above may be accepted if it is considered useful training for a motor engineer, but all such cases must be submitted to the Senior Examiner for consideration before the candidate is examined, and at least an additional three months of qualifying service on marine internal combustion engines either in the works or on regular watch in the main engine-room of vessels propelled by these engines, must have been performed in respect of each twelve months of workshops service of this nature, or other than on the making or repairing of internal combustion engines so accepted. If the service is not altogether satisfactory, a longer additional period than that specified may be required.

Any deficiency in the requisite four years' workshops service may be made up by service afloat on regular watch in the main engine-room of a vessel of not less than 565 brake horse-power propelled by internal combustion engines.

If the vessel is a sea-going vessel one and half times the period of deficiency must be served, and if an inland vessel two and a quarter times the period of deficiency will be required : Thus a candidate who has no workshop service must serve six years in a suitable seagoing vessel ; or nine years in an inland vessel in lieu of his apprenticeship.

(*b*) In addition to the workshop service as described above or the alternative service afloat, the candidate must have spent eighteen months at sea as engineer on regular watch on the main engines of a sea-going ship propelled by internal combustion engines of not less than 565 brake horse-power or 27 months in a similar inland vessel.

32. *Additional qualifications.*—(*a*) Such candidate must write a legible hand and have a good knowledge of arithmetic upto and including vulgar and decimal fractions and square root. He must also be able to work out questions relating to spring or level-loaded safety and relief valves, consumption of oil and stores, capacities of tanks, bunkers, etc., speed of vessel and other similar problems, and be able to calculate suitable working pressures for air receivers of given dimensions, and the stress per square inch on crank and tunnel shafts and other parts of the machinery when the necessary data are furnished;

(*b*) be able to give a clear explanation of the principles on which oil, gas or other internal combustion engines work, including the methods of ignition, to point out the differences between them, and to show by means of illustrative sketches and otherwise that he understands the details of the construction of those in general use;

(*c*) be familiar with the various methods of supplying air and fuel to the cylinders in the different types of engines, the construction of the apparatus for carburetting, atomising, or gasifying the fuel, and the means for cooling the cylinders, pistons, etc.;

(*d*) have a satisfactory knowledge of the process employed in the construction of internal combustion engines in the workshop, and of the methods used in fitting the machinery on board ship ;

(*e*) know what attention is required by the various parts of the machinery and understand the use and management of the different valves, cocks, pipes and connections ;

(*f*) be able to state and describe the chief causes which may make the engines difficult to start and to explain how he would proceed to remedy any defects arising therefrom. He must also be able to show that he understands the mechanism of the starting and reversing arrangements, and is competent to deal with defects therein ;

(*g*) understand how to make good the result of ordinary wear and tear to the machinery, how to test the fairness of shafting, etc., how to correct defects from accidents, delay, etc., and how a temporary or permanent repair could be effected in case of derangement or total break-down ;

(*h*) understand the construction of the pressure guage, barometer, thermometer and other instruments used in the engine-room and the principles on which they work ;

(*i*) understand the construction and working of centrifugal, bucket and plunger pumps, and the principles on which they act ;

(*j*) understand the construction and working of air compressors, gas producers steering engines, electric light engines and dynamos, electric motor, refrigerating hydraulic and other auxiliary machinery found on board a ship ;

(*k*) possess a good working knowledge of the construction and management of auxiliary steam boilers and machinery and be familiar with the prominent facts relating to combustion, heat and steam ;

(*l*) be familiar with the nature and properties of the various oils etc., generally used in internal combustion engines, must understand what is meant by " flash point " and have a knowledge of the explosive properties of gas or the vapour given off by these oils, etc., when mixed with definite quantities of air and be thoroughly conversant with the danger of exposing such gas or vapour to a naked light ; or of allowing any leakage from the oil tanks particularly into the vessel's bilges and unventilated spaces, or from gas producers, pipes, vapourizers, etc.;

(*m*) thoroughly understand the precautions to be taken against fire or explosion from oil or gas, and know how to deal with fire, should it break out. He should also be familiar with the action of wire gauze diaphragms when placed in pipes and connections to oil tanks, etc., for the purpose of preventing the explosion or ignition of oil vapour therein :

(*n*) be able to explain the principle, construction and arrangement of primary and secondary batteries and induction coils so far as is necessary for the efficien management of an oil engine ;

(*o*) be able to take off and calculate indicator diagrams and understand the action of the gas in the cylinder as shown thereby, and

(*p*) have a fair knowledge of the rudiments of projection and be able to make a dimensioned working drawing of some simple part of the machinery with which he ought to be familiar or to complete and develop a given example. Drawing boards and T. squares will be provided but candidates will have to bring with them any drawing instruments they require.

33. *Motor-vessel certificates to Engineers of Sea-going vessels.*—An engineer in possession of a (steam) certificate of competency as an engineer is also eligible for a certificate as an engineer of inland motor vessel under the following conditions :—

(*a*) He must have served for not less than six months as an assistant engineer on regular watch on the main engines of a sea-going ship propelled by internal combustion engines of not less than 565 brake horse-power or nine months in a similar inland vessel whilst holding a first class certificate of competency for sea-going steam ships granted or recognised as valid under the (English) Merchant Shipping Act, 1894. He must also satisfy the Examiners that he is fully conversant with internal combustion engines and be able to show both in writing and in a *viva voce* examination that he has satisfactory knowledge of the subjects covered by sub-rules (*c*) to (*h*) and (*m*) to (*p*) of rule 32 of these rules ; or

(*b*) He must have served for not less than twelve months as an assistant engineer on regular watch on the main engines of a sea-going ship propelled by internal combustion engines of not less than 565 brake horse-power or eighteen months in a similar inland vessel whilst holding a second class certificate of competency for sea-going steam-ships, granted or recognised as valid under the (English) Merchant Shipping Act, 1894. He must also satisfy the Examiners that he is fully conversant with internal combustion engines and be able to show both in writing and in a *viva voce* examination that he has satisfactory knowledge of the subjects covered by sub-rules (*c*) to (*h*) and (*m*) to (*p*) of rule 32 of these rules.

34. *Motor endorsement on steam vessel certificates.*—Engineers in possession of ordinary certificates of competency as engineers granted under the Act may be examined for motor endorsement on their certificates : provided that they have served for not less than twelve months as assistant engineers on regular watch on the main engines of a sea-going ship propelled by internal combustion engines of not less than 565 brake horse-power or eighteen months on a similar inland vessel whilst holding a certificate as engineer.

### General Rules as to Examinations.

35. *Candidates not to take books, etc., into examination room.*—All books necessary for the use of candidates under examination will be provided by the Government of Bombay and applicants will not be permitted to take into the examination room any book, paper, document, or memoranda of any description whatever ; and, subject to the provision referred to hereafter, they will also not be allowed to work out their problems on a slate or on waste paper.

36. *Supply of additional papers.*—Candidates will be allowed in the time allotted to cancel any part of their work, and when required, additional papers will be supplied by the Examiners. These additional sheets must be attached to, and form part of, the examination papers.

37. *Punishment for breaking rules.*—In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another during the time of examination, he will be regarded as having failed in his examination, and will be turned back for three months in the same manner as if he had failed in the practical part of the examination ; and no part of the fees he may have paid for examination will be returned to him.

38. *Leaving examination room.*—If a candidate leaves the room before answering any question which has been given to him, he cannot afterwards be permitted to answer it, but the Examiners may substitute other data or another question.

39. (*a*) *Questions and answers.*—The examination of candidates for certificates of competency as engineers consists of four parts :—Arithmetic, Drawing, Elementary Questions and *viva voce.* When the number of marks obtained in Arithmetic amount to two-thirds of the maximum, the candidate passes in Arithmetic.

(*b*) *Specimen questions in Appendix C.*—All candidates presenting themselves for examination for certificates of competency as engineers will be required to give written answers to eight out of a list of ten questions given to them. Specimen questions for the guidance of candidates are contained in Appendix C.

40. *Answers in the form known as Exn. 15* (*b*).—The Form Exn. 15 (*b*) on which these answers will be written, contains also some questions as to the experience of the applicant, to be answered by him in writing.

41. *Addition to questions.*—Examiners may add to their *viva voce* questions on the practical management of steam-engines and boilers any of those contained in the Form known as Exn. 15 (*a*).

42. *Standard required to pass examination.*—If at the expiration of the time allowed the candidate has worked out correctly the whole of the questions set to him, and given satisfactory answers in the *viva voce* examination, he will be declared to have passed.

If at the expiration of the time allowed he has not worked out the whole of the questions set to him, but if the result of the *viva voce* examination, taken in connection with the answers to such of the questions as he has worked out, is sufficient to satisfy the Examiner that the applicant is competent to take charge of engines, he will be declared to have passed.

In other cases he will be declared to have failed.

43. *Report of examination.*—A report of the examination, and the examination papers, will be forwarded to the President on the Form known as Exn. 15.

44. *Intimation of having passed to be given to successful candidates.*—If the candidate passes, he will receive the necessary Form known as Exn. 16, upon which the President of the Board of Examiners will issue the certificate to the candidate, whose testimonials, etc., will be returned at the same time. It is therefore important that the port of destination of the certificate should be the same on both the Form Exn. 16 and the Form Exn. 3. If circumstances should make any alteration necessary, the Examiners should see that it is made in both forms, otherwise delay in the issue of the certificate may be caused.

FEES.

45. *When fees are to be paid.*—Candidates for examination, in making their application on Form Exhibition 3, will be required to pay the examination fees before any step is taken, whether by inquiring into their services or testing their qualifications, etc. No part of the fee will under any circumstances be returned to them; but should it be found that their service is not sufficient to entitle them to be examined, or that their testimonials are unsatisfactory, they will be allowed to present themselves for examination without paying any further fee, when they have fulfilled the requisite service or are able to produce satisfactory testimonials, as the case may be.

46. *Where fees are to be paid.*—The fee for examination must be paid in the Cash Office of the Mercantile Marine Department, Bombay District, Bombay. In any case in which a candidate offers money to any person other than the Cashier and in any place but in the Cash Office, the candidate so offering money will be regarded as having committed an act of misconduct, and will be rejected and not allowed to be examined for twelve months.

47. *Refund of fees.*—If a candidate fails in his examinations, *no part of the fee he has paid will be returned to him.*

48. *Scale of fees.*—The fees are as follows :—

| | Certificate of competency. Rs. a. p. |
|---|---|
| Engineers (steam or motor) .. .. | 15 0 0 |
| First Class Engine-Drivers (steam or motor) .. | 7 8 0 |
| Second Class Engine-Drivers (steam or motor) .. | 7 8 0 |

49. *Failure.*—If an Engineer fails in the *viva voce* or practical part of the examination, he may not present himself for re-examination until he can produce proofs of three months' further service afloat. If he fails in arithmetic or drawing only, he may come up again for examination at any time. Engine-drivers may be examined *de novo* after six months' service afloat, if the examination showed that they might reasonably be expected to qualify.

GENERAL.

50. *Forms of certificate.*—Certificates of competency of engineers and engine-drivers shall be made out and issued in the forms hereunto annexed.

51. *Certificates to be in duplicate.*—Every certificate of competency shall be made in duplicate, and one copy shall be delivered to the person entitled to the certificate, and the other shall be kept and recorded by the Principal Officer, Mercantile Marine Department, Bombay District.

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## APPENDIX A.

TESTIMONIAL.

*I . hereby certify that*
*has served with me in the engine-room of as*
*serang or principal tindal for a period of during*
*which time he has discharged his duties to my entire satisfaction.*

*I consider that he fully understands the working of an engine, and has sufficient tact, presence of mind, and energy to look after and manage the working of the engines of a river steamer having engines of 30 nominal horse-power or upwards, but of less than 80 nominal horse-power.*

*Date* Signed

*No. and description of certificate.*

*Any* engineer giving a testimonial in this form should be very careful in doing so, as the document may materially influence the applicant's eligibility as a candidate.

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## APPENDIX B.

### Examination in rough working drawing for an Engineer's Certificate of Competency.

1. The regulations in regard to the qualifications of a candidate for an engineer's certificate of competency are—

*He must be able to make rough working drawings of the different parts of the engines and boilers.*

*He must be able to state the general proportions borne by the principal parts of the machinery to each other.*

2. In accordance with these clauses, a candidate for an engineer's certificate is required to make a rough working drawing of the parts specified. A mechanic who has been some years in charge of marine engines and boilers ought by this time to have familiarly in his mind the general construction of at least one set of engines and boilers, say, that set he was last with. Fine drawing is not expected, and in the proportions of the parts a wide margin will be allowed; absurd dimensions will entail failure in practical knowledge.

3. The drawing must, however, be practically a working drawing, giving a sufficient number of views to show the parts fully—sections, plans, or elevations just as the candidate would require to be supplied to him if he had to make the parts to the design of another person.

4. A clear hand sketch showing the construction completely, and fully dimensioned, will be accepted if the candidate prefers this alternative.

5. A portion only of the parts specified may be accepted in place of the whole, if that portion is sufficient to show that the candidate has a good practical idea of the construction of the parts, and a fair notion of their general proportions or dimensions.

6. Candidates are hereby cautioned not to put on a paper what they have not fully considered, and deliberately intend to be understood, as their statement of what they know about the construction of any part required,

7. The statement given in by a candidate may be in themselves, apparently, of little importance, but as sample material from which the state of the candidate's knowledge of engines and boilers is to be inferred, every detail which is glaringly inconsistent with a sound knowledge of the use of the part, or in which an essential consideration has evidently been overlooked is an important element in the description which the candidate is giving of his own qualifications.

8. The candidate is advised not to begin more than he can clearly finish in the time allowed. An important object in this part of the examination is to ascertain whether the candidate can be trusted to mark all necessary dimensions upon a sketch or a drawing. The test of this is, practically, the making of the part from the sketch without having to supply additional dimensions, and without measuring the drawing. To prove this ability the candidate must fully dimension the parts shown in his sketch or drawing, notwithstanding that the parts may be correctly drawn to scale. A drawing is fully dimensioned when no part of it is left to the option of the person who is to work to the drawing.

9. To prevent misunderstanding, however, when the candidate has been led into showing more of the details than he has time fully to finish, he should name, in the statement on the other side, the particular parts which he has fully dimensioned.

10. All dimensions should have lines and arrow heads to indicate distinctly the points between which the dimensions are given.

11. The candidates should not write cross dimensions upon centre lines or upon longitudinal dimension lines. This is not an order, but a recommendation.

12. The candidate is not expected to design any thing; he has merely to sketch or draw something with which he is expected to be already familiar.

13. Pencil in nothing after half-past 3; all the dimensions, the figures and the darts must be inked in; employ the remaining time in examining the drawing and in inking in any figures which may have been before overlooked; and in checking the dimensions.

14. Make sure that you will have sufficient room on the drawing sheet to show all the necessary views. You can have another sheet of drawing paper if necessary. All the papers used must be forwarded with the drawing.

15. Fill in and sign the following statement:—

(*Specimen.*)

Subject for examination in rough working drawing.

(Read the foregoing general instructions.)

A common slide valve with its spindle. Show also an outline section of the parts at the cylinder face. Show the provision for connecting the slide valve to the spindle.

MO-B Bk H 715—66a

24. How are boiler tubes fixed? What are "stay tubes" and how are they secured?

25. Where is it generally that boiler-tubes leak? How is this defect repaired? What are the causes of this leaking?

26. What are the causes of cracked tube plates? Where are the cracks situated? How are they repaired?

27. What is the difference between a "dry uptake" and a "wet uptake." Which requires most repair? Why? Where have you seen a wet uptake?

28. What is a superheater? What is its construction? What valves are on it? There is sometimes a gauge glass on it; what is that for?

29. What parts of a marine tubular boiler are first injured by shortness of water?

30. Where are angle irons sometimes used in the construction of a boiler, and where are flanged plates used?

31. Priming: to what causes is it attributed? What means are applied to prevent it? What evils may be produced by it?

32. Funnel draught: what makes it? What checks it?

33. Flame is sometimes seen at the top of a funnel: what causes this appearance? Is it beneficial or is it detrimental? Why so?

34. A blast pipe: what is its construction? Where is it placed? For what is it used?

35. How many bottom blow-off cocks are generally fitted to each boiler, and why are they so fitted?

36. Blow-off cocks are sometimes fitted with a spanner guard: for what purpose is this? Describe how the guard is formed?

37. Test cocks or water-gauge cocks: where are they placed? At what heights? Must the cocks themselves be at those heights? What provision is made for cleaning these cocks? Should they ever become chocked? When there are no test cocks, how is the height of the water ascertained?

38. What is a dead-weight safety valve? Of what are the rubbing surfaces formed? How is a lock-up valve arranged to admit of lifting it or of turning it round, and to prevent adding to the weight?

39. About what area of safety valve is now required by the Board of Trade? What area was formerly required, and on what ground has that been altered? What is the effect of suddenly opening a safety valve when steam is up? To about what extent do safety valves rise when blowing off without being eased by hand?

40. Spring-loaded safety valves: what advantages have they that are not possessed by dead-weight valves? What are the disadvantages as compared with dead-weight valves?

41. Of what pieces does a glass water-gauge mounting consist ? How does it act ? Where is it placed ? At what height ? Is it liable to derangement ? How is its working tested ?

42. Glass water-gauge have sometimes pipe connections top and bottom ? What is the object of this arrangement ? Should there be cocks at the extremities of these pipes ?

43. Describe a Bourdon's steam-gauge. Some gauges have an inverted syphon-pipe below them : what is its use ?

44. Why is a small cock sometimes put on the pipe leading to a steam-gauge ? Where should it be placed, and what error might be made by omitting to use it ?

45. Do steam-gauges indicate the total pressure of the steam, or only a portion of that pressure ? What is the pressure measured from ?

46. What is meant by the salting of the boiler ? How is this prevented ? What is the density of ordinary sea water ? How is the density ascertained ? What is the difference between the formation of scale and the salting of the boiler ? What is the maximum density at which boilers should be worked at sea ?

47. Sum cocks and pipes : how are they arranged ? Where are they placed ? At what height in the boiler ? When are they used ? When must they be shut ? Neglect of these cocks lead to what dangers ?

48. Scale : of what does it consist ? Where is it most objectionable ? How is it removed ? How is its formation prevented ? What evil effects are produced by it ?

49. What is a salinometer ? Of what does it consist ? How does it act ? How is it graduated ? Can it be used at any temperature indiscriminately ?

50. What harm may be done through the check valve of one of a set of boilers being defective while under way ? How would you work to avoid this harm ?

51. How is the leak from a split tube stopped in a boiler at sea ? Describe the operation.

52. What is the use of dampers ? Where are they fitted ? When should they be used ?

53. When there are no dampers fitted, what is used instead ? What evil to the boiler is sometimes attribute to this ? When the heating surfaces are clean, does this occur ?

54. Describe the piston of a steam cylinder, with its different rings and their uses. There are generally round pieces let in flush on one side of a piston : what are they ? How are these pieces fied ?

55. Cylinder drain cocks : what is their use ? There is sometimes a valve up each cock : what purpose does it serve ?

56. Cylinder escape valves : of what do they consist ? How protected ? How regulated ? When are they most needed ? To what danger do they expose the engineer ? What precaution is sometimes used to obviate this danger ?

57. What is a compound engine ? What different kinds are there for screw steamers in respect to the number and arrangement of their cranks and cylinders ? What is a triple expansion engine ?

58. What is link motion ? What are some of its advantages ? In modern engines for the screw propeller, when there is no link motion, what takes its place ?

59. What is a separate expansion valve ? Why is it not fitted to all engines ? What effect has an expansion valve upon the starting and upon the reversing of the engine ?

60. What arrangement is applied to reduce the friction of a slide valve ? To what is the friction due ?

61. Describe a loose eccentric : how does it act ? In what engines is the loose eccentric still employed ?

62. What is the travel of the eccentric rod ? How is it measured on the eccentric ? What is the travel of the slide valve when the link motion is in mid gear and the engine still moving ?

63. What are "double-beat valves" ? Why are they not generally used for safety valves ? Are they ever used instead of the slide valve ? What objections are there to their use ?

64. What is a circulating pump ? Is it always worked by the main engine ? Give an example from your last steamer of the three water temperatures generally noted by careful engineers.

65. An air valve is sometimes fitted to a circulating reciprocating pump : what purpose does it serve ?

66. What is the difference between a bucket air-pump, a piston air-pump, and a plunger air-pump ?

67. Whether double-acting air-pumps are made with plungers with pistons, or with buckets ?

68. What is an air-pump trunk ? When is it necessary ? How is it attached to the bucket ?

69. What class of air-pump requires both foot and delivery valves, and in what other class can either of these valves be in some cases dispensed with ?

70. When under way, when the air-pump bucket is at the top of its stroke, at what height is the water in the condenser ?

71. With a surface condenser and a single acting air-pump, what is the effect of a leaky foot valve, and what is the effect of a leaky bucket when there is also a foot valve ?

72. Air-pump pet cock or valve : where is it placed ? How does it act ? What is its object ? Does it in every case reduce the effective capacity of the pump ? Is it equally applicable to double acting pumps ?

73. At what temperature is the hot well worked ? What is the effect of higher temperatures ? What is the effect of lower temperatures ? What limits the lowness of temperatures ? Has a very low temperature any disadvantages ?

74. Bilge injection with common condensers : what are the fitting required ? When is it used ? What precautions are necessary in using it ?

75. When surface condensers are used, what takes the place of the bilge injection ? To what is the connection made ? How is its valve formed ? Why is this necessary ?

76. What are the practical guides to the proper amount of opening of the inlet valve for the circulating pump ?

77. Feed-pump pet cock or valve : where is it placed ? What is its use ? How does it act ? Is it always a necessary fitting ?

78. What are some of the ways of fastening the ends of surface condenser tubes ? About what size and about what thickness are condenser tubes ? What parts of a surface condenser are made of brass ?

79. What is a blow-through valve or cock ? To what is it attached ? There is sometimes a valve that when opened admits steam from the slide valve casing to the exhaust port : what is its use ? To which cylinder is it fitted ?

80. What is a snifting valve ? What is its use ? Where is it placed ? Can it be placed too high ? Can it be placed too low ? At what height should it be placed ? Was there one in your last steamer ; if so, where was it ? Why are snifting valves generally omitted now ?

81. What connections are generally fitted to the donkey-pump and to what services can it be applied ?

82. When the engines are stopped with steam up, what are to be shut and what are to be opened ?

83. How is an engine heated up before starting ? What precautionary examinations are made before starting ?

84. What is an interceptor or catch-water ? Where is it fixed ; what is its construction ; how does it act and what attention does it require ?

85. Describe an air-pump bucket, with its valve or valves and its packing. Of what are the valves generally made ?

86. Of what materials are air-pump rods made ? Why so ?

87. What is the racing of the engine ? When does it occur ? What danger attaches to it ? What is done to prevent it ?

88. What are marine governors ? What is their general constructions ? How do they act ?

89. What is meant by the "pitch" of a screw propeller ? How is it measured ?

90. Explain the difference between a "right-hand" and a "left-hand" propeller, and state how each of them revolves.

91. What is the slip of a screw propeller ? How is its amount expressed in figures ?

92. Which of the valves about engines and boilers have to be worked by hand, which of them work self actingly, and which are worked by the motion of the engine ?

93. Why is soda sometimes put into a boiler, and how is it put in while under weigh ? What is the kind of soda used ?

94. Tallow cups for cylinders were sometimes made with two small cocks, or with only one small cock, or with one large hollow plug cock, or with one small cock and valve ; which of these is suitable for a high-pressure cylinder, and which for the cylinder, of a condensing engine ? Describe how the cup with only one small cock is used. What is now generally used instead of these ? How has this change come about ?

95. Does a cylinder escape valve, self-acting, allow all the water to escape : if not, how much is left in the cylinder ?

96. What is a "steam lubricator" (sometimes called an impermeator) ? Explain its action ; to what part of the engine is it connected ; whether will throwing cold water over it make it work faster or slower ? Describe the one used in your last steamer.

97. A common paddle wheel : of what is the centre made ? Of what are the arms formed ? What is the form of the bolts which attach the floats to the arms ? How are the arms attached to the centres ?

98. Why have some paddle wheels one or more cast-iron floats in each wheel ? With what engines are these most required ? At what part of the circumference are they placed ?

99. Why are paddle wheel floats sometimes made of different breadth in the same wheel ? With what description of engine is this most needed ? Where are the broad floats placed and where are the narrow floats placed in the circumference of the wheel ?

100. What difference is there between a radial paddle wheel and one with feathering floats ? What is the object of feathering floats ? Are all the eccentric rods attached in the same way, and are they all of the same form ?

101. Whereabout is the centre of the eccentric of a paddle wheel with feathering floats placed ? In that case are the feathering levers on the stricking face or on the back of the float ? When the paddle shaft has an outer bearing, how is the eccentric made ?

102. Of what materials are the working surfaces of a paddle wheel with feathering floats ? Are they all lubricated ? With what ?

103. What is a " disconnecting paddle engine " ? At what place is the disconnecting effected ? How is it accomplished ? In which of the cranks of a disconnecting engine are the crank pins fixed ?

104. Whether is the link motion valve gear or the loose eccentric generally used for disconnecting paddle engine ? For what steamers are disconnecting paddle engines frequently employed ?

105. What are expansion joints ? Where are they necessary ? What attention do they require ? Of what should the working surfaces be made ?

106. What omission in the construction of expansion joints may lead to a serious accident when steam is first applied ? How is this prevented in the construction of a steam trunnion pipe for an oscillating engine ?

107. Describe an oil cup with a syphon worsted. How is the worsted arranged ? How is it cleaned ? How far down the tube does it extend ?

108. Describe a thrust bearing ; which of the surfaces wears ? Why are there sometimes a number of oil tubes for one thrust bearing ?

109. What parts of a screw shaft are generally covered with brass ? Why is this necessary ? About what thickness is the brass ?

110. What is the stern tube or screw shaft pipe ? Why is a pipe of such a length required ? Of what is it made ? How is it fixed at each end ?

111. What is a *lingnum vitae* bearing ? How is the wood fitted ? Where is such a bearing generally used ?

112. How is a screw propeller fixed on the shaft ? What means are used to prevent its getting loose at sea ?

113. Where are sluice valves placed ? What large sluice valve is there in almost all screw steamers ? From what position should this valve be worked ? Why so ? What attention should it receive ?

114. With a condensing engine what valves or cocks are on the skin of the ship in the engine-room and in the stokehole ?

115. What are the necessary fittings of a marine boiler ?

116. With a surface condensing engine what cocks or valves are open sometimes before the engine is started so as to be ready for starting whenever the order is given ?

117. What is a steam jacket ? What cocks are on it ? In what engines are jackets most generally used ? Do they require to be felted ?

118. What parts of an engine or its fittings should be felted or otherwise protected from radiation ?

119. What are the small cylinders sometimes fitted on the slide valve casing cover of vertical engines ? Explain their action. To what are they connected by a pipe ? Why so ?

120. Name the principal pipes in connection with the engines and boilers of a steamer, and state to what the ends of these pipes are connected ?

121. Through what cocks or valves, pipes and chambers does the water pass on its way from the sea inlet rose plate to the water space of the boiler with a jet condenser ?

122. Through what cocks or valves, pipes and chambers does the circulating water of a surface condenser pass ?

123. Through what cocks or valves, pipes and chambers does the steam pass from the boiler until it is in the form of water in the hot well ?

124. Name the pieces of the engine through which the pressure of the steam is transmitted from the piston to the screw propeller. Name them in the order in which they act.

125. What is an air vessel ? How does it act ? At what parts of an engine or of its fittings are air vessels generally applied ?

126. What is the construction of a mud box ? Where should mud boxes be placed ? Why are they necessary ? How should the space be divided by the rose plate, and why ?

127. What is a trunk engine ? When used in a horizontal engine for a right-hand screw propeller, at which side of the vessel should the cylinders be placed ? Why so ?

128. What is an oscillating engine ? For what steamers are oscillating engines generally adopted ? Why ? How is the steam conveyed to and from the slide valve casing ?

129. Of what parts does the valve motion gear of an oscillating engine consist ?

130. For what have geared engines sometimes been used ? Of what were the cogs of the large wheel made ?

131. At what part of a screw steamer is the pressure that propels it applied to the hull ?

132. At what part of a paddle steamer is the pressure that propels it applied to the hull ?

133. About how much fuel per indicated horse-power per hour is required by modern steam engines, common, compound and triple expansion ?

134. What is the explanation of the economy of the surface condenser ?

135. What is the construction of a surface condenser ? Of what are its tubes made ? How are they fixed ? How are they kept tight ? What is done with a split tube ?

136. Where do surface condensers foul ? How are they cleaned ?

137. What non-conducting substances are employed to prevent radiation, and how are they applied ?

138. In the construction of smoke box doors and of dry uptakes, what provision is made to lessen the amount of radiation ?

139. How can the formation of black smoke be prevented ? Describe smoke-preventing apparatus.

140. What is meant by " circulation " in a boiler ? And what are the results of defective circulation ?

141. What means are sometimes adopted to improve the circulation in a boiler ?

142. By what arrangement is the circulation promoted in a " haystack " boiler ?

143. Describe a ship's side air-pump discharge valve ; in what respect does it sometimes differ from a common stop valve ; and what attention does it require ?

144. What is the construction of a feed-escape valve, to what is its discharge connected and how is its loading regulated ?

145. When there is no feed-escape valve what is the arrangement of the feed valves or cocks ?

146. What is the measure of a horse-power ? How is indicated horse-power ascertained ?

147. Has " nominal horse-power " a fixed meaning ? What is the use of this expression ? What is generally taken as the measure of one horse-power nominal ?

148. What is " back pressure " in a cylinder ? About how much is it in each of the cylinders in your last steamer ? Is excessive cushioning ever a trouble under certain conditions in modern engines ? Say when and why and in which cylinder this occurs.

149. What is meant by " speed of piston " ? About how much is the speed of piston in modern marine engines ?

150. What is " atmospheric pressure " ? What is its average amount ? What instrument tells this amount ?

151. What is " gross pressure " or " absolute pressure " ? What pressure is it that is shown by the steam-gauge ?

152. What is meant by " cutting off " steam ? How is it done ? What part of the valve regulates the cut off ?

153. What is a piston slide valve ? Describe its construction. Why are such frequently employed in place of the common slide valve ? What is a great draw back to the use of these valves ?

154. What fixes the time of closing the exhaust ? After the exhaust is closed and before the port opens for steam, what becomes of the steam that is in the cylinder ?

155. What is the "lead" of the valve ? What is its object ? About what amounts is it ?

156. What is the "cover" or "lap" of the valve ? What is its object ? About what proportion of the stroke of the valve is it made ?

157. What is the "exhaust cover" of a slide valve ? What is its effect upo cushioning and upon exhaust ?

158. What is "minus cover" or "minus lap" on the exhaust ? What is its effect upon the exhaust and upon cushioning ?

159. What is "cushioning" or "compression" in a steam cylinder ? How is it affected by the amount of cover or of minus cover there may be upon the exhaust ? How is it affected by the exhaust pressure ?

160. What is "mean effective pressure" ? How is its amount ascertained ?

161. What is a dial vacuum gauge ? What is its construction ? For what is it used ? About what amount should it show when the engine is working all right ? What effect has the variations it indicates on the performance of the engine ?

162. Does the vacuum gauge enable you to tell what pressure there is in the condenser or must you have recourse also to the barometer to arrive at that ? How would you ascertain the actual amount of back pressure there is in the condenser ?

163. What is a barometer ? What is its construction ? Is a barometer sometimes used instead of a vacuum gauge ? In what respect does the weather barometer differ from the vacuum gauge barometer ?

164. The common vacuum gauge and the common steam gauge, in which of them are the graduations marked from atmospheric pressure ? Does either of them tell what is the true actual pressure in the boiler or in the condenser ?

165. Do steam and vacuum gauges vary with the variations of the weather barometer ? When the weather barometer varies from 29 to 31, how much will the vacuum gauge vary, and how will that affect the working of the engine ? Why so ?

166. Vacuum is generally stated as so many inches. What is meant by say 20 inches vacuum ? What does that tell us about the absolute pressure of the vapour then in the condenser ?

167. From what depth will a pump draw water? Is there any limit? Why?

168. What is vacuum? Can vacuum move a piston? When the temperature of the water in the condenser is 212, what is the greatest degree of vacuum there can then be in the condenser?

169. What is a thermometer, its construction? What is the property of matter, that is, the principle of its construction? What temperatures are regularly noted by careful engineers?

170. What is the temperature (1) of melting ice, (2) of boiling water, (3) of steam about 60 lbs. pressure by the steam-gauge, (4) of steam about 100 lbs., and (5) of steam about 150 lbs., also (6) of smoke in the funnel, and (7) of water in the hot well?

171. What is meant by the "conduction" of heat? Give examples of it in the boiler and in the engine.

172. What is meant by the "convection" of heat? Give examples of it in the boiler and in the engine.

173. What is meant by "radiation" of heat? Give examples of it in the boiler and in the engine.

174. Which is convection, which is radiation, and which is conduction in the following cases: (1) Heat from the flowing fuel to the furnace crown; (2) Heat passing from one side of the furnace crown plate to the other; (3) Heat passing from the steam pipes in the engine-room; (4) The heat of evaporation?

175. What are the effective heating surfaces of a marine boiler? What is an objection to vertical heating surfaces?

176. What parts of a marine engine are exposed to danger when the temperature is below freezing point?

177. What precautions are necessary in cold climates when the temperature is below freezing point?

178. State as many ways as you can by which a boiler might not get its full feed; that is, a boiler or one of a set of boilers, gets short of water, although the feed valve is open, its proper amount; to what causes might this be due?

179. Of what are furnace bars generally made? About what thickness are they at top? About what space is between them? Whether are the bars put further apart for Newcastle coal or for Welsh coal?

180. Which burns faster, Newcastle coal or Welsh coal? Which is the flaming coal? Which makes most smoke?

181. About how many tons of steam coal will be burnt per day in four furnaces, each 3′ 0″ wide, and of about the usual length? On what grounds do you say so?

182. About how many tons of steam coal will be burnt per day with good compound engines to drive an ordinary steamer of 45 feet beam 10 knots an hour by steam alone ? On what grounds do you say so ? What percentage more coal would be required to propel the same steamer 1 knot faster ?

183. About how many tons of steam coal will be burnt per day with a good compound engine, surface condensers, the low pressure cylinder 70 inches diameter, doing average work ? On what grounds do you say so ?

184. A pair of inverted cylinder direct acting engines, there is a liner half an inch thick between the ahead eccentric rod and the eccentric strap, in overhauling the engine this piece is lost and forgotten ; what difference will its omission make in the working of the engine, on the admission, on the cut off, and on the exhaust of the steam ? Which will take place earlier, and which later, distinguishing between the up stroke and the down stroke ?

185. A pair of engines driving a right-hand screw ; on which of the crosshead guide bars is the pressure greatest in the up stroke, and on which ir the down stroke ?

186. A screw propeller is getting loose, it has a little play on the shaft, side-ways on the key or feather ; how will this show in the engine-room ?

187. How would you prove whether the centre line of the trunnions of an oscillating cylinder be fair with the centre line of the main shaft ?

188. How can the fairness of a line of screw shafting be tested without lifting the shafts ?

189. Where are steel forgings generally used in marine engines ?

190. What is the composition of nickel-steel ? Where is it sometimes used in engines and boilers ?

191. How is forced draught generated on board ship and supplied to boiler-furnaces ? Is the air heated before delivery ? If so, how ?

192. What is "induced" draught ? Compare the merits of "forced" and of "induced" draughts.

193. How is the intensity of the draught measured ? What is the usual pressure employed in the mercantile marine ?

194. An explosive gas is liberated from bunker coal. Usually in well ventilated bunkers this gas escapes into the atmosphere without doing harm. In ill ventilated bunkers the gas, after mixing with a certain proportion of common air, has been known to explode when a naked light has been brought in contact with it. What is the composition of the gas ? Where is it found, in bunkers, tween decks, pockets, and coal shoots ? How may it be got rid of as soon as it evolves from the coal ? How many cubic feet of air to one of the gas forms a violent explosive mixture ?

195. A lighted lamp or candle has sometimes been lowered into an apparently empty paraffin tank and produced an explosion resulting in injury to the person holding the light. What did the tank probably contain, and what produced the explosion ?

196. In vessels carrying coal cargoes it has been observed that, generally speaking, the gas which escapes from the body of the coal is found more abundantly at the forward end of the hold than at the after end. Why should this be so ?

197. In recently opened ballast tanks, double-bottoms, and boilers, a light lowered into either has sometimes been extinguished. What would, in all probability, cause this ?

198. In double-bottom steamers where does the bilge water lie, and where are the roses of the bilge pipes fitted ?

199. What is the advantage of a large rose over a small one ?

200. Why especially in vessels carrying cargoes liable to shift, should engine room bilge suctions be fitted to both wings of the bilge ?

201. In a heavily listed vessel, why is it difficult to keep steam ?

202. If the engine bilge pumps get choked and water accumulates in the stokehold bilges, what effect does the water have upon the bilge boards and stokehold plates, when the ship is rolling violently ?

203. In a triple-expansion engine, what spare gear do you consider necessary in the case of a foreign-going ship ? Also, what stores would you provide for a voyage to New Zealand ?

204. What means are sometimes provided for temporarily coupling together the broken parts of, say, a tunnel-shaft ? Describe the fitting.

205. Does the pressure on the thrust-collars vary with the horse-power, or with the speed of the ship, or how ?

206. If the holding down bolts of a thrust-bearing should become slack, what effect would it have upon the working of the engines ?

207. In an engine with three cranks, which of the three is subject to the greatest torsional stress (1) in going ahead, (2) in going astern ?

208. Is it usual to make the crank shafts of a triple or quadruple-expansion engine in one piece ? Is the diameter of the shaft uniform end to end ? Give your reasons for the practice which prevails.

209. In a "built" crank shaft how are the webs rigidly secured to the pins and to the body of shaft ?

210. There are various descriptions of donkey engines in use on board ship for pumping purposes. Some pumps are fitted with escape-valves, some are not, why should this be ?

211. Explain the function of an air-vessel fitted to a feed pump. Make rough hand sketches of (1) a satisfactory vessel, (2) an unsatisfactory vessel, where, say the air-spring has been destroyed by carelessness, or has never been properly provided.

212. Should cocks or escape-valves be fitted to air-vessels? Why or why not?

213. Where, by preference, should the escape-valve of a feed pump be placed? Why?

214. Scum cocks are sometimes fitted to boiler-shells at a height convenient for engineers to manipulate when standing in the stokehold; the scum pipes in such cases are led upward, inside the boiler, to a little above the cumbustion chamber tops. What danger may arise from this arrangement?

215. Cocks for testing the water level of boilers are sometimes fitted within reach of the engineer who is standing in the stokehold. These may have internal pipes leading upward and terminating at various levels. Under what circumstances may these become misleading?

216. Why should the pipe which leads from the bottom of the water-gauge column to the bottom of the boiler-front or back, be covered with non-conducting material? Why also should it never have lengthy horizontal bends?

217. In your own experience, how frequently is this pipe removed and cleared?

218. Why—even with the best of water-gauges, is it advisable to occasionally use the drain-cock?

219. Steam loops have sometimes been inadvertently made in the length of piping leading from the top of the water-gauge column to the top of the boiler. Roughly sketch such a loop and explain the danger arising from its existence.

220. Describe your method of thoroughly testing the water-gauge system to satisfy yourself that all the cocks and pipes are clear. Your answer can be written on a supplementary sheet of foolscap, which the examiner will hand you. Hand sketches, mere lines indicating pipes and circles indicating cocks, should be made. Identify the cocks and pipes by letters or numerals.

221. Describe the construction of a water-tube boiler, mentioning the type selected.

222. In a water-tube boiler, how is an economiser fitted, and what is its duty?

223. How is the water-gauge fitted? Are glass-gauges used?

224. The pressure of the steam in water-tube boilers is sometimes greater than at the engines. Why is this, and what percentage above the engine pressure does it amount to? How is this difference of pressure maintained?

225. Describe any automatic method of feeding water-tube boilers. Of what material are the tubes made?

226. Describe the construction of any steam turbine you are acquainted with, which is used on board ship. How is the expansion of steam effected? How many propeller shafts are employed, and how many propellers?

227. Is the same power available to go astern as to go ahead ?

228. Of what material are the propellers made ?

229. How many pounds of coal per indicated horse-power per hour are burnt with this type of engine ? Name the type of boiler in use.

230. Describe the construction of a feed water-heater and give the name of its manufacturer.

231. Describe any well-known ash-ejector.

232. Describe any well-known independent feed pumps.

233. Are independent feed pumps automatic in their action ? Explain the action.

234. What advantage, if any, have independent feed pumps over feed pumps worked by the main engines ?

235. To about what temperature is the feed water raised by passing through a feed-heater ?

236. What fittings are usually placed on a feed-heater ? Why are they necessary ?

237. Describe the construction of a feed filter, enumerating its valves and cocks.

238. How can the filter be cleaned ? And what ingredients are generally removed when cleaning takes place ?

239. What is the intercepting material made of ? How is it fitted ?

240. Describe an evaporator ; and mention the type.

241. What fittings are necessary with evaporators ?

242. How is the brine got rid of ?

243. How may the coils be cleaned ?

244. What is a dynamo ? Describe its various parts. For what is it used ?

245. In what respect does an electric motor differ from a dynamo ? Where are electric motors sometimes used on board ship ?

246. Describe a system of electric lighting employed on board ship.

247. How is the position of a fault in the circuit discovered ?

248. What is " sparking " and may it under some circumstances (naming them) be a danger ?

249. What is " short-circuiting ", and to what evil may it give rise ?

250. What means are employed to prevent any part of the circuit becoming overheated ?

251. Describe the features of an arc lamp.

252. Describe the construction of a glow-lamp.

253. What is the usual candle-power of the small glow-lamps in general use on board ship ?

254. Define the following terms :—Ampere, volt, ohm, watt. What is the measure of an electrical horse-power ?

255. Explain the uses of switches, brushes, commutators cutouts, field-magnets, armatures and resistance-coils.

256. Why is it desirable to fit a dynamo in a coal place on board ship ?

257. What undesirable effect will ultimately occur to an electric wire, whose sectional area is constantly diminishing, say, through corrosion ?

258. What danger might arise from leading electric wire through coal bunkers ?

259. Is it better to lead electric wires above or below side-scuttles ? Why ?

260. What instruments are used on board ship to ascertain the strength of an electric current ?

261. Many ocean-going steamers are fitted with hydraulic cranes, etc. From where do they obtain their power ? How is the hydraulic pressure kept at a relatively constant amount ?

262. Is any difficulty experienced in working hydraulic cranes in frosty weather ? If so, why ?

263. Describe any steam steering gear you are acquainted with.

264. When the helm is put hard over and the ship is going full speed ahead, what prevents the rudder returning to the amidship position ?

265. In the case of a steamship under way, does the officer, or man manipulating the steam steering wheel overcome any resistance exerted by the rudder ?

266. Explain clearly what is being done by a helmsman manipulating the wheel of a steam steering engine.

267. Is there any difference between the amount of horse-power required to put a helm hard over, in a given time, when the vessel is going full speed ahead, and when she is going full speed astern ? This question refers to a case of a steamer fitted with one rudder only, and demands a more complete answer than merely "yes" or "no".

268. What precautions should be taken before removing a manhole door from a steam-boiler and why are these precautions necessary ? In the absence of such precautions what casualties might occur ?

269. Describe the chief features of the engine-governor fitted to a steamer you have served in. Describe its action. Give the maker's name and name of ship.

*Note.*—The following six questions refer to oil motors, fitted to launches which carry passengers :—

270. Name the principal parts of an oil motor, and briefly state their functions. Give the name of the makers of the motor.

271. What kind of oil is usually employed in oil motors ? What is its flash-point ? What its specific gravity ? What its calorific value ? What precautions are taken in its storage to guard the public against casualty by fire or explosion ?

272. How many cylinders are generally used in oil motors ? What kind of pistons is fitted ? How frequently (measured in revolutions) is explosion per cylinder effected ? How is explosion in the cylinder carried out ?

273. Describe how an oil motor is started. If starting prove difficult where would you chiefly look for defects ? How is piston speed modified ? How is the speed of a vessel verified ? How is reversing effected ?

274. Before examining an oil motor with a naked light, what steps should be taken for safety's sake ?

275. How frequently should an oil motor, working 12 hours a day, be opened up for examination, cleaned and its parts re-adjusted ? What difficulty arises when the internal parts become foul with carbonized oil ?

*Note.*—Questions isolated from their context should be read in the light of the context. Thus the "sparking" referred to in question 248 relates to the sparking in an electric lighting circuit on board ship. *See* question 246.

APPENDIX D.

BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY AS ENGINEER OF AN INLAND STEAM VESSEL UNDER ACT I OF 1917.

To

WHEREAS it has been reported to the Government of Bombay that you have been found duly qualified to fulfil the duties of Engineer of an Inland Steam Vessel, I do hereby, in pursuance of Act I of 1917, grant you this CERTIFICATE OF COMPETENCY.

By order of the Governor of Bombay,

Countersigned
this day of 19 . Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

(*Reverse.*)

No. of Certificate

Bearer

Date and place of Birth

Signature

Any ENGINEER who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY AS FIRST CLASS ENGINE-DRIVER OF AN INLAND STEAM VESSEL UNDER ACT I OF 1917.

To

WHEREAS it has been reported to the Government of Bombay that you have been found duly qualified to fulfil the duties of First Class Engine-Driver on an Inland Steam Vessel having Engines of under 100 nominal horse-power, I do hereby, in pursuance of Act I of 1917, grant you this CERTIFICATE OF COMPETENCY as Engine-Driver.

By order of the Governor of Bombay,

Countersigned

This day of 19 . Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

(*Reverse.*)

No. of Certificate

Bearer by caste

Date* and place of Birth, showing Village, Thana and District

Residence showing Village, Thana and District

Height

Personal description, stating particularly any permanent marks or scars.

Signature

Any Engine-Driver who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

* If not known exactly, must be stated on the best information or evidence.

BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY AS SECOND CLASS ENGINE-DRIVER OF AN INLAND STEAM VESSEL UNDER ACT I OF 1917.

To

WHEREAS it has been reported to the Government of Bombay that you have been found duly qualified to fulfil the duties of Second Class Engine-Driver on an Inland Steam Vessel having Engines of under 40 nominal horse-power, I do hereby, in pursuance of Act I of 1917, grant you this CERTIFICATE OF COMPETENCY as Engine-Driver.

By order of the Governor of Bombay,

Countersigned,

This day of 19 . Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

(*Reverse.*)

No. of Certificate
Bearer by caste
Date* and place of birth, showing Village, Thana and District
Residence, showing Village, Thana and District
Height
Personal description, stating particularly any permanent marks or scars
Signature

Any Engine-Driver who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

* If not known exactly, must be stated on the best information or evidence.

BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY AS SECOND CLASS ENGINE-DRIVER OF AN INLAND MOTOR-VESSEL UNDER ACT I OF 1917.

To

WHEREAS it has been reported to the Government of Bombay that you have been found duly qualified to fulfil the duties of Second Class Engine-Driver on an Inland Motor Vessel having engines of under 226 Brake Horse-power, I do hereby, in pursuance of Act I of 1917, grant you this CERTIFICATE OF COMPETENCY as Engine-Driver.

Countersigned, By order of the Governor of Bombay,

This day of 19 .

Secretary to the Government of Bombay.

Principal Officer,
Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

(*Reverse.*)

No. of Certificate

Bearer by caste

Date* and place of Birth, showing Village, Thana and District

Residence, showing Village, Thana and District

Height

Personal description, stating particularly any permanent marks or scars

Signature

Any Engine-driver who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay Distirct.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

* If not known exactly, must be stated on the best information or evidence.

BY THE GOVERNMENT OF BOMBAY.

GOVERNMENT OF BOMBAY.

CERTIFICATE OF COMPETENCY AS FIRST CLASS ENGINE-DRIVER OF AN INLAND MOTOR-VESSEL UNDER ACT I OF 1917.

To

WHEREAS it has been reported to the Government of Bombay that you have been found duly qualified to fulfil the duties of First Class Engine-Driver on an Inland Motor Vessel having engines of under 226 Brake Horse-power, I do hereby, in pursuance of Act I of 1917, grant you this CERTIFICATE OF COMPETENCY as Engine-Driver.

By order of the Governor of Bombay,

Countersigned,

This day of 19 . Secretary to the Government of Bombay.

Principal Officer,

Mercantile Marine Department,
Bombay District.

Registered at the Office of the Principal Officer, Mercantile Marine Department, Bombay District.

No. of Certificate

Bearer by caste

Date* and place of Birth, showing Village, Thana and District

Residence showing Village, Thana and District

Height

Personal description, stating particularly any permanent marks or scars

Signature

Any Engine-driver who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Rs. 500.

*N.B.*—Any person, other than the owner thereof, becoming possessed of this Certificate is required to transmit it forthwith to the Principal Officer, Mercantile Marine Department, Bombay District.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District.

* If not known exactly, must be stated on the best information or evidence.

*License to act as Engineer of an inland steam-vessel of 170 nominal horse power or of less nominal horse power granted under section 22-A of the Inland Steam Vessels Act, 1917.*

To

holder of first class engine driver's / engine driver's certificate of competency

No. issued at on

under the Inland Steam Vessels Act, 1917 (I of 1917). / the Indian Merchant Shipping Act, 1923 (XXI of 1923).

Whereas it has been reported that you have been found after examination duly qualified to fulfil the duties of Engineer of an inland steam vessel having engines of 170 nominal horse power or of less nominal horse power, this license is hereby, in pursuance of section 22-A of the Inland Steam Vessels Act, 1917, granted to you authorising you to act as such engineer.

This license shall remain in force as long as you hold, or are entitled to, the aforesaid Certificate of Competency.

Dated at Bombay, this day of 19 .

By order of the Governor in Council,

Principal Officer, Mercantile Marine Department,
Bombay District, Bombay.

No. of License

Description of holder—

(1) Name.
(2) Date and place of birth, showing village, thana and district.
(3) Height.
(4) Personal description, stating particularly any permanent marks or scars.

Signature of holder.

Issued at Bombay on the day of 19 .

Principal Officer,
Mercantile Marine Department,
Bombay District, Bombay.

**G. of I., Dept. of Com., Notn. No. 351-M.I (2)/33, 25th November 1933, republished in Notn. No. S-8, dated 28th November 1933 (B. G., Pt. I, p. 2805).** S. 49

*Amended by G. N., P. & R. D., No. 1800/34/1, dated 11th June 1937.*

In exercise of the powers conferred by section 49 of the Inland Steam Vessels Act, 1917 (I of 1917), and in supersession of the Notification of the Government of India in the late Department of Commerce and Industry, No. 10549-37, dated the 13th December 1913, the Government of Bombay is pleased to declare that the following articles shall be deemed to be dangerous goods for the purposes of the said Act, namely :—

1. Explosives as defined in section 4 of the Indian Explosives Act, 1884 (IV of 1884).

2. Petroleum as defined in section 2 of the Petroleum Act, 1934 (XXX of 1934), except petroleum required for use as fuel by the steam or motor-vessel carrying the same.

3. Sulphuric Acid.

4. Concentrated Ethyl Fluid.
(Solution of Lead Tetra-Ethyl in Ethylene Dibromide).

***G. N., M. D., No. 27, dated 16th January 1911.** S. 52

In exercise of the powers conferred by section 50 of the Inland Steam Vessels Act, 1884 (VI of 1884), and in supersession of the rules published in Government Notifications in the Marine Department No. 125, dated the 16th December 1891 and No. 143, dated 16th November 1898, the Governor in Council, with the previous sanction of the Governor General in Council, is pleased to make the following rules for the protection of inland steam-vessels from danger by explosion or fire :—

*Rules.*

Conditions on which dangerous goods may be carried on an inland steam vessel.

1. Dangerous goods may be carried on board an inland steam-vessel on and subject to the following conditions :—

(*a*) It shall be the duty of the master of every inland steam-vessel to keep a copy of sections 48 and 49 of the Act posted up in some prominent place therein.

(*b*) No person shall bring on board or remove from an inland steam-vessel any dangerous goods between sunset and sunrise; provided that petroleum may be brought on board or removed from an inland steam-vessel between sunset and sunrise when electric light is exclusively used.

* This Notn. issued under section 50 of the Inland Steam Vessels Act, 1884 (corresponding to section 52 of the Inland Steam Vessels Act, 1917) is still in force.

(*c*) Every person bringing on board any dangerous goods shall, if so required by the master or any officer of the vessel, deliver up the same to the master of the vessel for safe custody.

(*d*) No master of an inland steam-vessel shall allow any dangerous goods to be carried on board thereof except in a separate compartment provided for the storage thereof and rendered inaccessible during the voyage to the crew and passengers.

(*e*) No person shall kindle or use any fire and no master or officer of an inland steam-vessel shall permit any fire to be kindled or used on any flat or steam-vessel while any dangerous goods are being taken in or discharged.

(*f*) No master of an inland steam-vessel employed as a coasting vessel shall allow dangerous goods of the following descriptions to be carried on board thereof in excess of the quantities hereinbelow specified, that is to say :—

| | |
|---|---|
| (1) Explosives as defined in section 4, sub-section (*1*), clauses (*a*) and (*b*) of the Indian Explosives Act. | The quantities allowed in the case of a boat whilst carrying or plying for public passengers by Rule 12 of the rules to regulate the Transport and Importation of Explosives published in Notification of the Government of India in the Department of Commerce and Industry No. 4555-4, dated 31st May 1907. |
| (2) Petroleum as defined in section 2, clause (*a*) of the Indian Petroleum Act, 1899. | 5,000 gallons. |
| (3) Sulphuric Acid ... ... | 500 gallons. |

(*g*) As regards explosives and petroleum all the provisions of Rule 12 of the rules to regulate the Transport and Importation of Explosives aforesaid and of Rule 14 of Part III of the Rules for the Importation, Possession and Transport of Petroleum in the Bombay Presidency published in Government Notification in the General Department, No. 2572, dated the 18th May 1909, shall apply respectively to explosives and petroleum carried on an inland steam-vessel employed as a coasting vessel.

Protection of cargo from danger by fire.

2. Before an inland steam-vessel proceeds on a voyage, it shall be the duty of the master and of every officer thereof to have its cargo, and the cargo of any flat which it is intended to tow, safely stowed away, hay or material being to tow, safely stowed away, hay or other inflammable material being properly covered with tarpauline or other sufficient protection.

Provisions as to use of lights.

3. No person shall use a naked light of any description in the hold or on the cargo deck of any inland steam-vessel. No person shall so use a closed light, except under the direction and supervision of an officer of the vessel.

4. No person shall make or use any fire on board an inland steam-vessel, and no master or officer of any such vessel shall permit the making or use of fire thereon, except in galleys or in regularly constructed fire places.

Provision as to fire.

5. (1) The owner of every inland steam-vessel shall provide and the master shall keep in efficient condition on board thereof the following apparatus for the purpose of extinguishing fires.

Apparatus for extinguishing fires.

(*a*) Hose sufficient to reach from the engines of the vessel to her stern and taffrail.

(*b*) Fire-buckets in the proportion of not less than one for each of the crew.

(2) No master of an inland steam-vessel shall proceed on a voyage, unless the apparatus required by this rule is on board in efficient working order and in a position available for immediate use.

6. The master of every inland steam-vessel shall place an officer in charge of the fire-engines thereof. Such officer shall see that the fire-engines are always ready for immediate use.

Officer to have charge of fire engines.

7. It shall be the duty of the master of every inland steam-vessel to assign to each of the officers and crew a station to take up in case of fire and the duties each is in such contingency to perform.

Assignment of duties in case of fire.

8. Any person committing a breach of any of the foregoing rules shall be punishable with imprisonment for a term which may extend to six months or with fine which may extend to five hundred rupees, or with both.

Punishment for breach of these rules.

9. The provisions of Rule 1 regarding the delivery of dangerous goods to the Master of a vessel for safe custody and the carriage of dangerous goods in a suitably constructed storage compartment shall not apply in the case of explosives carried in the form of samples and in charge of an Inspector of Explosives.

***G. N., M. D., No. 126, dated 16th December 1891.** Ss. 53 & 54

The following rules made by His Excellency the Governor in Council to regulate the carriage of passengers and for the protection of passengers in inland steam-vessels in the Presidency of Bombay under sections 51A of the Inland Vessels Act, 1884, as amended by Act III of 1890, and which have received the sanction of the Governor General in Council in accordance with section 69, clause 5 of the first quoted Act, are published for general information :—

1. (1) The owner or master of an inland steam-vessel may refuse to admit on board thereof any person who by reason of d unkenness or contagious or infectious disease or madness or other cause, is in such a state, or who misconducts himself in such a mann r, as is likely to cause annoyance or danger to other passengers on board.

Refusal of admission to intending passengers.

*This notn. issued under sections 51 and 51A of the Inland Steam Vessels Act, 1884 (corresponding to sections 53 and 54 of the Inland Steam Vessels Act, 1917) is still in force.

(2) If any passenger on board an inland steam-vessel is drunk and disorderly, the owner or master may require him to leave the vessel at any convenient place.

Drunken persons may be required to leave.

Punishment of offences committed by passengers.

2. The following offenders, that is to say :—

(*a*) any person who, being drunk, has been on that account refused admission into an inland steam-vessel by the owner or master thereof, and who, after having had the amount of his fare (if he has paid the same) returned or tendered to him, nevertheless persists in attempting to enter such vessel ;

(*b*) any person who, being drunk and disorderly on board any such steam-vessel, is requested by the owner or master thereof to leave the same at any place at which he can conveniently do so, and who, having had the amount of his fare (if he has paid the same) returned or tendered to him, refuses to comply with such request ;

(*c*) any person on board any such steam-vessel who commits any act of indecency, or after warning by the owner or master or any other officer of the vessel, molests or continues to molest any passenger ;

(*d*) any person who, after having been refused admission into any such steam-vessel by the owner or master thereof or by any person in the employ of the owner thereof, on account of such vessel being full, and who after having had the full amount of his fare (if he has paid the same) returned or tendered to him, nevertheless persists in attempting to enter the vessel ;

(*e*) any person having got on board any such steam-vessel who upon being requested on the like account by the owner or master thereof, or by any person in the master's employ to leave such vessel before the same has quitted the place at which such person got on board and who after having had the full amount of his fare (if he has paid the same) returned or tendered to him, refuses to comply with such request ;

(*f*) any person who travels or attempts to travel in any such steam-vessel without having previously paid his fare and with intent to avoid payment thereof ;

(*g*) any person who, having paid his fare for a certain distance, knowingly and wilfully proceeds in any such steam-vessel beyond such distance, without previously paying the additional fare for the additional distance, and with intent to avoid payment thereof ;

(*h*) any person who fraudulently refuses or neglects on arriving at the point to which he has paid his fare to quit any such steam-vessel ;

(*i*) any person who takes or attempts to take luggage with him in any such steam-vessel without having previously paid the freight, if any, payable on such luggage, and with intent to avoid payment thereof ;

(*j*) any person who travels or attempts to travel on any such steam-vessel in any portion thereof which is indicated by a conspicuous notice in writing in English and the chief vernacular of the districts passed through on the voyage as assigned for the accommodation of a higher class than that for which he has paid his fare, with intent to avoid payment of the fare payable for the accommodation he uses or attempts to use.

(*k*) any person on board any such steam vessel who does not, when required by the owner or master or other officer of such vessel, either pay his fare or exhibit such ticket or other receipt, if any, showing the payment of his fare as is usually given to persons travelling by paying their fares for such vessel, or who does not, when required, deliver up his ticket at the end of the journey ;

(*l*) any person who, having a ticket for any such steam-vessel, transfers it to any other person with intent to enable such other person to avoid payment of the fare ;

(*m*) any person who, or any such steam-vessel, uses or attempts to use a ticket on any day for which such ticket is not available, with intent to avoid payment of the fare ;

(*n*) any male who trespasses on any such steam-vessel into a compartment reserved for females and at the time of being occupied by females ;

(*o*) any person smoking or being in possession of a fire or light of any description in any part of any such steam-vessel, except where permitted by the owner or master thereof ;

(*p*) any person wilfully committing a nuisance in any part of any such steam-vessel ; and

(*q*) any person embarking on or disembarking from, or attempting to embark on or disembark from, any such steam-vessel while such vessel is in motion ;

shall, for every such offence, be punishable with fine which may extend to twenty rupees.

Punishment of an offender not to prejudice recovery of his fare.

3. The punishment of any person for an offence under Rule 2 shall not prejudice the recovery from such person of any fare payable by him.

Amount of fare to be denoted on tickets or receipts.

4. No owner or master of an inland steam-vessel shall issue, or cause or allow any person in his employ or under his control to issue, any ticket or receipt which a passenger is required to obtain on payment, or exhibit as showing the payment, of his fare, unless the amount of the fare and the class (if any) for which and the ports from and to which the same is issued are printed or legibly denoted thereon in English, and in the chief Vernacular of the districts through which the vessel passes.

Adequate supply of drinking water to be provided.

5. No master of an inland steam-vessel shall proceed therewith from any port, unless and until there is on board fresh water fit for drinking purposes and sufficient in quantity to supply the passengers thereon in the proportion of one gallon to each passenger, or shall refuse the supply thereof in such proportion free of charge to any passenger who demands the same.

Reasonable time and facilities to be allowed by masters for disembarkation of passengers at ports to which they have paid the fare.

6. The master of an inland steam-vessel shall stop his vessel at every port for which the fare has been paid by one or more passengers and shall allow reasonably sufficient time and facilities for the disembarking of such passenger or passengers at such port.

Copy of rules to be kept affixed on board every inland steam-vessel.

7. It shall be incumbent on the owner of every inland steam-vessel to provide and on the master to keep constantly affixed on board thereof in some conspicuous place, to which passengers have free access, a copy in English and in the chief vernacular of the districts through which the vessel passes, of all rules at the time being in force under section 51 or section 51A of the Inland Steam Vessels Act, 1884, as amended by Act III of 1890.

Punishment for breach of Rules 4 to 7.

8. Any owner or master who commits a breach of any of the Rules 4, 5, 6 and 7, shall for each such breach be punishable with fine which may extend to fifty rupees.

Ss. 54 & 67

**G. N., M. D., No. 771, dated 16th May 1925 (B. G., Pt. I, p. 1365).**

In exercise of the powers conferred by sections 54 and 67 of the Inland Steam Vessels Act, 1917 (I of 1917), the Governor in Council is pleased to make the following rule for the protection of passengers in inland steam-vessels, namely :—

*Latrines in Inland Steam Vessels—*

In addition to and exclusive of a sufficient number of closets for saloon passengers and crew, inland steam-vessels shall be provided with latrines for the exclusive use of deck passengers, in the ratio of two latrines for the first hundred deck passengers and one for every additional hundred or part of hundred such passengers for which the vessel is certified. A fair proportion of latrines shall be allotted from the above to the sole use of women and children and shall be so marked outside. In no case shall there be a less number than two nor need there be more than six latrines so provided.

On steam vessels which ply by day, on voyages not lasting more than six hours, there shall be one latrine for every two hundred passengers with a minimum of two and one of these shall be marked for women and children.

The Surveyors may in their discretion exempt wholly or in part any small steam-vessel from the provisions of this rule.

Except as provided in the last preceding paragraph any breach of this rule shall be punishable with fine which may extend to fifty rupees.

S. 67 (1) Inland Steam (Motor) Vessels (Life Saving Appliances) Rules, 1949.

**G. N., P. W. D., No. 791/48, dated 6th October 1949 (B. G., Pt. I, p. 6650).**

*Amended by G. N., P. W. D., No. 791/48, dated 23rd October 1952.*

In exercise of the powers conferred by sub-section (*1*) of section 67 of the Inland Steam-Vessels Act, 1917 (I of 1917), the Government of Bombay is pleased to make the following rules, namely :—

1. These rules may be called the Inland Steam (Motor) Vessels (Life Saving Appliances) Rules, 1949.

2. For the purposes of these rules,—

(*a*) an "approved life-buoy" shall be deemed sufficient to provide buoyancy for two persons ;

(*b*) "buoyant apparatus" shall mean rectangular rafts fitted with buoyancy tanks of yellow metal or copper sufficient to support upto fourteen persons in the water; and shall include buoyant deck seats;

(*c*) "length of a vessel" shall mean the extreme length of the vessel.

3. Every steam or motor vessel requiring a Certificate of Survey under the Inland Steam-vessels Act, 1917, shall be provided with buoyancy sufficient for the total number of persons the vessel is intended to carry: Provided that if such vessel holds an unberthed passenger certificate called "Certificate A" granted under section 154 of the Indian Merchant Shipping Act, 1923 (XXI of 1923), such vessel shall be deemed to have complied with this rule if it is provided with appliances for saving life as prescribed by the Indian Merchant Shipping (Life Saving Appliances) Rules, 1934.

4. Every such vessel under 70 feet in length shall be provided with buoyancy for all persons on board. At least 60 per cent. of the total buoyancy shall be in the form of buoyant apparatus and the remaining 40 per cent. may be life-buoys. Provided that in the case of small launches under 40 feet in length, where it is impracticable to carry the buoyant apparatus required by this rule, the Principal Officer, Mercantile Marine Department, may sanction a lesser percentage of buoyant apparatus or may allow the whole of the buoyancy to be provided by approved life-buoys.

5. Vessels over 70 feet in length and under 150 feet in length shall carry at least one approved boat and if over 150 feet in length two such approved boats. The boats shall be attached to davits.

6. In addition to the boats required under rule 5 every vessel over 70 feet in length shall carry buoyant apparatus which shall be sufficient together with the boat to accommodate 60 per cent. of the total number of persons the vessel is certified to carry, the remaining buoyancy may be supplied by life-buoys.

7. All buoyant apparatus shall be constructed under the supervision of, and tested by a Surveyor of the Mercantile Marine Department.

8. All buoyant apparatus and life-buoys shall be so placed as to be capable of floating off the vessel freely.

9. No master of an inland steam (motor) vessel shall proceed on any voyage unless the life saving appliances required by these rules are on board and in good condition and in a position available for immediate use.

10. Any master who commits a breach of rule 9 shall be punishable with imprisonment for a term which may extend to six months or with fine which may extend to five hundred rupees or with both.

**G. N., P. W. D., No. ISA. 1052, dated 14th November 1952 (B. G., Pt. I, p. 6429).** S. 68

In exercise of the powers conferred by section 68 of the Inland Steam-Vessels Act, 1917 (I of 1917), and in supersession of Government Notification in the Marine Department No. 94 (*a*), dated the 10th July 1923, the Government of Bombay is pleased to declare that the provisions of Chapters II and III of the said Act, shall not apply to classes of steam-vessels, specified in the Schedule, provided the owners hold valid navigation permits,

*Schedule.*

I. The following classes of steam (motor) vessels which do not ply for hire for the conveyance of persons or goods :—

(i) motor-boats which form part of a steam (motor) vessels equipment under the Ministry of Transport Regulations for Life Saving Appliances;

(ii) sailing yachts fitted with auxiliary motors; and

(iii) ordinary rowing and sailing boats fitted with a detachable outboard motor.

II. Small steam (motor) vessels not exceeding thirty-five feet extreme length used exclusively for personal recreation by the owner, his family or his friends.

**G. of I., Dept. of Com. and Industry, Notn. No. 538-D, 17th November 1917, republished in G. N., G. D., No. 8140, dated 19th November 1917.** S. 69

*Amended by G. N., R. D., No. 1800/34(2), dated 11th June 1937.*

In pursuance of section 69 of the Inland Steam Vessels Act, 1917 (I of 1917), the Government of Bombay is pleased to direct that the following portions of the said Act shall apply to inland steam-vessels belonging to, or in the service of Government other than vessels of the Indian Marine Service, namely :—

*Chapters I, IV and V.*—The whole.

*Chapter VI.*—The whole, with the exception of sections 50 and 51.

*Chapter VII.*—Sections 60, 61, 63, 65 and 66.

*Chapter VIII.*—The whole, with the exception of sections 71 and 72.

***G. N., M. D., No. 36, dated 17th March 1893.** S. 70

In exercise of the power conferred by Section 65 of the Inland Steam-vessels Act, 1884, and with reference to Government Notification No. 65, dated 1st September 1890, the Governor in Council is pleased to direct that the tidal waters of the Bombay Harbour and of the rivers leading into it that are to the north and east of an imaginary line drawn from Colaba Point to Thull Knob, shall also be deemed to be inland waters for the purposes of the said Act.

**G. of I., Dept. of Com., Notn. No. 282-S, dated 27th March 1926, republished in G. N., M. D., No. 53, dated 31st March 1926 (B. G., Pt. I, p. 776).** S. 73

*Amended by G. of I., Dept. of Com., Notn. No. 282-S(9), dated 2nd Mar. 1929.*

*Amended by G. of I., Dept. of Com., Notn. No. 351-M.I. (2)31, dated 9th Jan. 1932.*

*Amended by G. N., P. & R. D., No. 1800/34/3, dated 11th June 1937.*

In exercise of the power conferred by section 73 of the Inland Steam-vessels Act, 1917 (I of 1917), and in supersession of the notifications of the Government of India in the Department of Commerce and Industry, specified in the Schedule

* This notification issued under section 65 of the Inland Steam Vessels Act, 1884 (corresponding to section 70 of the Inland Steam Vessels Act, 1917), is still in force.

hereto annexed, the Government of Bombay is pleased to declare that the provisions of the said Act shall apply to vessels which ordinarily ply on inland waters and are propelled by electricity or other mechanical power, except steam, with the following modifications, namely :—

1. For clause (*5*) of section 2 the following clause shall be substituted, namely :—

"(*5*) 'Motor-vessel' means a vessel propelled wholly or in part by the agency of electricity or other mechanical power, except steam."

2. For the words "steam-vessel", "steam-vessels" and "boilers, engines", wherever they occur, except in section 22-A, the words "motor vessel", "motor-vessels" and "propelling machinery", respectively, shall be substituted.

3. After section 21, the following section shall be inserted, namely :—

"21-A. The certificate granted under the provisions of this chapter to a holder of a similar certificate in respect of an inland steam-vessel shall take the form of an endorsement on such similar certificate."

4. For sections 25, 26 and 27, the following shall be substituted, namely :—

"25. An inland motor-vessel having engines of five hundred and sixty-five or more brake horse-power shall not proceed on any voyage unless she has—

(*a*) as her master a person possessing a First Class master's certificate for inland steam-vessels granted under the Inland Steam-vessels Act, 1917, or a master's certificate granted either under the Indian Merchant Shipping Act, 1923, or the Merchant Shipping Act, 1894, and

(*b*) as her engineer a person possessing a motor engineer's certificate granted under this Act, or a certificate as a First Class or Second Class Engineer of a sea-going motor-ship granted either under the Indian Merchant Shipping Act, 1923, or the Merchant Shipping Act, 1894."

"26. An inland motor-vessel having engines of two hundred and twenty-six or more brake horse-power, but of less than five hundred and sixty-five brake horse-power, shall not proceed on any voyage unless she has—

(*a*) as her master a person possessing a Second Class master's certificate for inland steam-vessels granted under the Inland Steam-vessels Act, 1917, or any certificate referred to in clause (*a*) of section 25, and

(*b*) as her engineer a person possessing a first class motor engine-driver's certificate granted under this Act or a certificate as an engine-driver of a sea-going motor-ship granted either under the Indian Merchant Shipping Act, 1923, or any certificate referred to in clause (*b*) of section 25."

"27. An inland motor-vessel having engines of less than two hundred and twenty-six brake horse-power shall not proceed on any voyage unless she has—

(*a*) as her master a person possessing a serang's certificate for inland steam-vessels granted under the Inland Steam-vessels Act, 1917, or any certificate referred to in clause (*a*) of section 26, and

(*b*) as her engineer a person possessing a Second class motor engine-driver's certificate granted under this Act, or any certificate referred to in clause (*b*) of section 26 :

Provided that an inland motor-vessel of 40 brake horse-power and under, may have as her engineer a person holding a permit granted by the State Government under such conditions as the State Government may prescribe :

Provided also that an inland motor-vessel of not more than twenty brake horse-power, the length of which measured from the fore part of the stem to the after part of the stern post does not exceed 30 feet, may have as her master an engineer a person possessing both a certificate referred to in clause (*a*) and a certificate referred to in clause (*b*) of this section :

Provided further that an inland motor-vessel whose length, measured as described in the above proviso, does not exceed 30 feet and which does not ply for hire but is used exclusively for business purposes or personal recreation by the owner, his family or friends, need not carry a certificated master or engineer but may be navigated by the owner, or other person in charge of such vessel, possessing a permit granted by the State Government or by any person duly authorised by the State Government in this behalf."

*The Schedule.*

| Number of notification. | | Date. |
|---|---|---|
| 6155–28 | ... | 17th August 1912. |
| 2672–28 | ... | 8th April 1913. |
| 10548–37 | ... | 13th December 1913. |
| 1571–52 | ... | 14th March 1914. |